

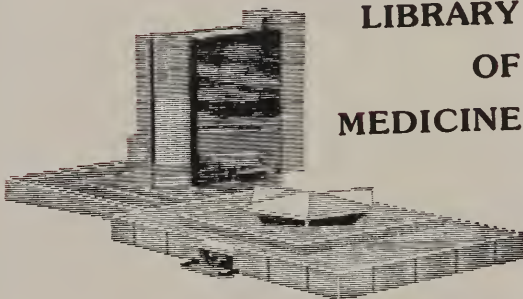
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Four Months Among
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Surgeons of Europe.

✓ BY
N. SENN, M.D., Ph.D.,
OF MILWAUKEE, WIS.

ATTENDING SURGEON TO THE MILWAUKEE HOSPITAL; PROFESSOR OF THE
PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL SURGERY IN
THE COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO, ILL.

BEING A SERIES OF LETTERS TO DR. CHR. FENGER.

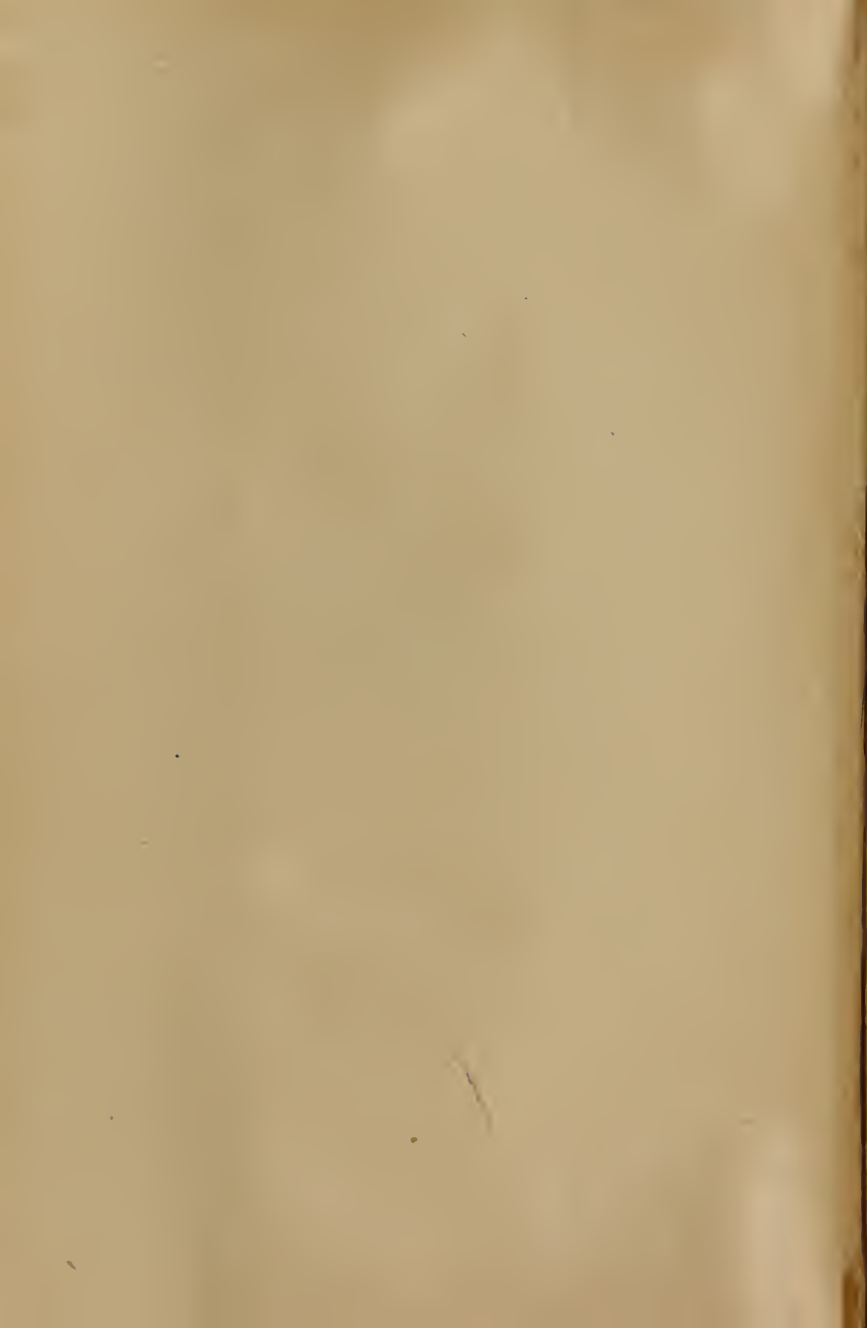
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*“ A chiel’s amang you takin’ notes,
And, faith, he’ll prent ’em.”*



LIVERPOOL AND MANCHESTER.

Rushton Parker—Reginald Harrison—Urethrotomy for Rupture of Urethra—Plastic Operations on Urethra—Hypospadias and Epispadias—Carcinoma of Breast—Scalp Wound—Royal Infirmary, Manchester—Rhinoplasty—Myxœdema—Congenital Multiple Fibroma—Abdominal Sections—Dr. Ross—Defective Drainage—Cholecystotomy—Resection of Hip Joint—Radical Cure of Hernia.

Dear Dr. Fenger:—I spent two days in Liverpool, and became personally acquainted with Rushton Parker, Reginald Harrison and Mitchell Banks. Parker lectured on "Sarcoma" to a class of fourteen students. Looking at his class-list I noticed twenty-seven names. The lecture was delivered in a colloquial style and gave evidence of a good clinical acquaintance with his subject, but no deep points in histology or pathology were elaborated. I visited with him the Royal Infirmary and the various departments of the University, which are located in close proximity to the hospital. The chemical branch of this institution was erected and endowed by some of the rich manufacturers of the city, and is a model of usefulness and perfection.

Harrison is a man of middle age and is an enthusiast in his specialty. He showed me several cases of rupture of the urethra followed by extravasation where he had made external urethrotomy and incisions through the infiltrated tissues. He places great stress upon the necessity of removing the extravasation by firm compression, relieving the tissues at once of the fluid in the same manner as squeezing a sponge. The result of this procedure is to prevent sloughing and hastening the suppurative process. He drains the bladder only for a few days with his drain. He

is a firm advocate of boutonnière for diagnostic and therapeutic purposes. He looks upon this operation as a trivial procedure almost devoid of danger. He introduces the drain along the groove of a Wheelhouse's gorget. He also demonstrated upon several cases the advantages of his "whip bougie." This instrument is about twenty inches in length, and if previously warmed is so flexible that it doubles upon itself, when fully introduced, without doing damage to the walls of the bladder. As the instrument is conical in shape, one introduction is followed by the same degree of dilatation as the introduction of a number of the ordinary filiform bougies. He favors treatment of strictures of urethra by gradual dilatation, and reserves the cutting operation for exceptional cases.

He is not favorably inclined to the crushing operation for stone in the bladder, and showed a case of lateral operation done a few days before where the wound had almost completely healed.

In plastic operations upon the urethra he performs the buttonhole operation, and drains the bladder as a preliminary measure. You can readily conceive the advantages accruing from this precaution, as it secures to the wound the two essential conditions for rapid healing: rest and the possibility of an aseptic healing. In draining the bladder he stitches the margins of the wound closely around the tube so as to prevent leakage between the drain and the soft parts.

In hypospadias and epispadias he makes the new urethra by tunneling the tissues from the apex of the glans penis to the abnormal opening, and secures patency for the new channel by introducing a drainage-tube until the healing process is completed. As a last step the abnormal opening is accurately closed over a catheter and the urethral continuity is restored. To guard against subsequent constriction of the new canal the patient is instructed to introduce a good-sized bougie at least once a week.

Mr. Banks operated upon a case of carcinoma of the breast, and although the axillary glands did not appear to be involved, a clean dissection of the axilla was made to the axillary vessels. Wherever a vessel was recognized it was ligated at two points and divided between the ligatures, consequently very little blood was lost during the operation. A spectator was readily convinced that the operator had been for years a teacher of anatomy. Spray was used, as I was told, more for the purpose of irrigating the wound than for its supposed effect in sterilizing the atmosphere. The wound was completely closed with silver sutures and drainage established in the lower posterior recesses of the wound. As an antiseptic dressing sublimated wood wool cushions are used. I received the impression that dressings are too frequently changed in this hospital, thus depriving the wounds of that perfect rest required in a typical wound-healing and exposing the patients to the risks of subsequent infection during the frequent dressings.

Mr. Banks also operated upon a lad who had received a scalp wound nearly three months ago. No brain symptoms were present after the injury or for some time subsequently. During the last few weeks rise in temperature, slight suppuration of wound. For the last few days greater rise in temperature, vomiting and sopor; both pupils contracted. At site of injury, over the left frontal region, the wound presented a granulating appearance and a probe could be passed through a small aperture into the skull. Probable diagnosis, suppurative pachymeningitis. The field of operation was carefully disinfected, and while patient was under the influence of chloroform the opening in the bone was enlarged with bone forceps. The dura bulged into the wound and did not pulsate. The meninges were incised with a sharp bistoury without having made an exploratory puncture, but no pus or any other fluid remained, and

after some superficial probing the wound was dressed without making any further attempt to search for a deep-seated abscess.

Mr. Thos. Jones, of Manchester, one of the surgeons of the Royal Infirmary, is lecturer on Clinical Surgery in Owen's College, and a surgeon who is esteemed not only in his own city but throughout the United Kingdom. The infirmary contains about 300 beds, and, although an old building, is well ventilated and well furnished. Typical resections of the hip and knee are in favor, and many cases were shown in which this operation had been performed. Antiseptic wound treatment is followed, but many of the more minute details are not carried out. Sublimate wood-wool dressings are used almost exclusively. Many of the operation wounds showed evidences of imperfect wound treatment. For immobilization of the lower extremity Thomas's splint is used in preference to any other. Fractures are treated with removable splints until swelling has subsided before the plaster-of-Paris splint is applied.

Mr. Hardy was met in the operating-room, where he was putting on the finishing touches in a rhinoplasty operation made by transplanting distal phalanx of the left index finger for a bony support and a covering of a flap taken from the anterior surface of the left arm. Interval between the several steps of the operation of about three or four weeks. Present cosmetic results quite satisfactory. He has done this operation three times, and always with a satisfactory result.

I was shown a case of myxœdema in a girl 21 years of age. Mr. Jones also called my attention to a case of metastatic carcinoma following scirrhus of the breast, of more than twenty years' standing, which had resulted in a pathological fracture of the left femur and right humerus. The interesting feature in this case consisted of rapid swelling at the point of fracture with subsequent subsidence of

swelling, but no union between the disunited bones.

A case of multiple fibromata of a congenital origin also attracted my attention. The patient was a male about 50 years of age, thousands of tumors covering the entire surface of the body from the scalp to the plantar surfaces of the feet.

In the afternoon I visited Owen's College in company with Dr. Sinclair, who introduced me to the eminent physiologist, Dr. Stirling, the translator and annotator of Landois' "Physiology."

A visit to a private hospital for women and children with Dr. Sinclair, the attending gynecologist, proved interesting and profitable. I was shown three cases in which abdominal section had been done for different indications; in all of them the dressing was removed and the glass drains emptied by suction with a syringe mounted with a rubber tube. In all of them a small quantity of a reddish serum was removed and the drains washed out with $\frac{3}{4}$ per cent. solution of chloride of sodium. The temperature was normal, or nearly so, in all of them. The operations are all done under the strictest antiseptic precautions. Dr. Sinclair is a gynecologist who has the interests of his profession at heart, and who has a promising future before him.

I visited Dr. Ross at his home with Dr. Robertson. He lives in a comfortable, almost luxurious mansion in one of the most beautiful suburbs of the city. With a capacious park surrounding his house, completely isolating him from the turmoils of a great city, we can readily conceive how a man of his intelligence and indomitable energy should accomplish so much. I met him on the following day in his wards at the infirmary, and was pleased to follow him in his elaborate description of three cases of peripheral neuritis then under his care. The diagnostic tests were applied in presence of the class and could not fail to bring conviction to all of those who were fortunate enough to be within his hearing.

I also went to Oldham, the home and field of labor of Dr. Robertson, who showed me his cases at the Infirmary, a neat hospital containing 90 beds. Everything in the wards showed perfect discipline and the most careful management. Dr. Robertson is a young physician who furnishes a good illustration of what can be accomplished by modern aggressive surgery. Three simple cases of abdominal section had recently been done and had proved fatal within twenty-four hours from acute septic peritonitis. A search for the cause showed that defective drainage had occurred by the leakage of sewer pipes in the basement. The last case was operated upon in a cottage near the hospital, and was progressing favorably. At this place I had an opportunity of examining a patient with a fusiform aneurism, where the pulsations were distinct, but no bruit could be heard on auscultation. The patient contracted syphilis many years ago, and this disease was undoubtedly the result of mes-arteritis.

In the Manchester Royal Infirmary I saw Mr. Whitehead make a cholecystotomy. The patient was a male, about 50 years of age, who for four months had suffered from periodical pain in the region of the gall-bladder, followed by progressive jaundice. On palpation it was thought that the margins of the distended viscus could be felt. Under spray an incision was made parallel to and about a finger's breadth below the costal arch on the right side, sufficiently long for the operator to introduce two fingers for making the necessary exploration. As this opening appeared to be inadequate, another incision was made, at a right angle with the first, in a downward direction, when the gall-bladder, distended to the size of a small pear, was readily brought into the wound for inspection and palpation. A superficial examination showed that it contained no stones, but as its contents could not be emptied by compression, and palpation of the bile ducts did not satisfy the operator as to the presence or precise lo-

cation of a probable stone in the ducts, the organ was stitched into the wound in the usual manner, to be opened and explored after adhesions had been secured.

I visited the Pendlebury Hospital for Sick Children, about four miles from the centre of the city, with Mr. Wright, one of the attending surgeons. This institution has a capacity of 300 beds, is constructed upon the pavilion plan and located in one of the most salubrious suburbs of the city. It is a model of architectural perfection. Mr. Wright is a most careful and prudent surgeon, and has done most excellent work. He operates early in cases of hip-joint disease, but has abandoned typical resections of knee-joint disease in favor of arthrectomy and atypical resections whenever such a course appears practical. He showed six cases of resection of the hip-joint done recently, and most of them were without temperature. Fixation of limb is secured by means of Thomas' splint. The spray is used during the operation, and sublimated wool dressings are in general use. For fixation of dressing the elastic webbing bandage is frequently used. Tubercular glands are removed early, and the results of this method of operation have been satisfactory.

Mr. Wright strongly advocates radical operation for hernia in children, and in his hands the operation has been followed by only one death out of a great number subjected to this treatment. He does not remove the sac, but secures perfect coaptation by marking with a needle, armed with a catgut ligature, numerous points of transfixion, and tying the ligature.

The nurses are well trained and render intelligent assistance at operations, as was demonstrated by a number of operations made during my presence.

N. SENN.

GLASGOW.

The University—The Hunter Collection in the Museum—Surgery in Glasgow—MacEwen's Osteotomies—Operation for Cerebral Abscess—Radical Operation for Hernia—Cerebral Cyst—Treatment of Fractures of the Skull—Subcutaneous Osteotomy versus Abdominal Section in Obstetrics.

Dear Dr. Fenger:—A walk with Prof. George Buchanan through the various departments of the University of Glasgow soon convinced me that Glasgow may well be proud of her school, as every branch has been supplied with every conceivable facility for teaching, regardless of expense. The buildings are located upon a hill in the western part of the city and are surrounded by a beautiful park. We met Sir William Thompson, one of the most famous of scientists, in his laboratory busily engaged in his scientific investigations. The weight of advancing years appears to have no effect in diminishing his working power.

Mr. Young, the Curator of the Museum, a most accomplished scholar, very kindly showed me the most interesting specimens in William Hunter's collection. I had here an opportunity of examining the specimens and casts which had been used in illustrating the classical work of Hunter "on the Gravid Uterus." For any one who has had an opportunity to examine the wonderful book it is a great source of satisfaction to study the original specimens from which the illustrations were made. In these days of unsuccessful cholecystotomy it is interesting to look at a specimen of 1,070 gallstones, varying in size from a filbert to a millet seed, taken after death from the same patient. In the collection of urinary calculi I exam-

ined with much interest a stone corresponding in shape to the interior of the bladder, and which, as the label stated, weighed 1 pound $2\frac{3}{4}$ ounces. A number of specimens illustrate the etiological relation between renal calculi and hydro and pyonephrosis. A number of specimens showed impaction of the renal calculus in the pelvic extremity of the ureter with extensive localized cystic dilatation of the pelvis of the kidney and its calyces. In one case the stone had become arrested near the vesical extremity of the ureter followed by immense dilatation of the tube above the point of obstruction and dilatation of the pelvis of the kidney. The anatomy of the male and female organs of generation is illustrated by numerous careful dissections, some of them have been treated with mercurial injections, which even at this time present the vascular network in a perfect manner.

In the surgical wards the antiseptic treatment of wounds is not thoroughly practiced. I was shown two cases of operation for hæmorrhoids done according to the plan devised by Dr. Lange, of New York. Excision of a circular strip of the ano-rectal mucous membrane with the eclatic veins and suturing of the wound. In one case the operation was attended by serious hæmorrhage, while in the other it was nearly bloodless. Both patients were doing well.

I called on Dr. Wm. MacEwen, whose name has become familiar wherever orthopædic surgery is practised. He informed me that he had performed his operation of subcutaneous osteotomy with the chisel 900 times for genu valgum and varum and curvature of the leg, and out of this number of cases he never observed a bad result. He is very particular that the line of section in cases of genu valgum and varum should be made above the epiphyseal line by selecting as the fixed landmark a finger's breadth above the external condyle of the femur. The small incision for the chisel is made at a point

diametrically opposite and in part of tendon of the adductor magnus, so as to avoid the anastomotica magna artery. In none of his cases had he found it necessary to resort to measures of any kind to arrest hæmorrhage. In the hands of other operators the popliteal artery had been injured, an occurrence which he attributes to carelessness of the chisel. In making the section of bone he directs that the chisel should be always directed away from the artery. In children suffering from rachitis the operation is postponed until the disease has subsided. The process of callus-formation proceeds in the same manner as in subcutaneous fractures. After osteotomy the deformity is at once corrected and the limb immobilized the same as after a fracture. He has divided as many as eight bones at one sitting and has never observed embolism or any other untoward symptoms. For genu valgum he usually applies a well padded splint with a foot board along the outer side of the limb, this splint is fastened upon a cross piece to prevent rotation.

He showed me a case in his private practice where he had operated for cerebral abscess about four weeks ago. The patient was a boy about 7 years of age who had suffered from purulent inflammation of the middle ear with perforation of the tympanum for some time. A number of weeks ago cerebral symptoms appeared, and the mastoid process was opened behind the ear by another surgeon without any benefit. When the boy came under the observation of Dr. MacEwen, he showed distinct signs of mental perturbation; the pulse was slow and the temperature subnormal. The only focal symptom was a slight ptosis on the affected side. From the history of the case and the complexus of cerebral symptoms it was concluded that the patient was suffering from a cerebral abscess. The head was shaved and thoroughly disinfected, and the trephine applied at a point about an inch above and an inch behind the ex-

ternal meatus. When the disc of bone was removed the dura mater appeared tense, but otherwise normal. No cerebral pulsations. A thoroughly disinfected needle was inserted and passed in a downward and forward direction towards the petrous portion of the temporal bone, the supposed seat of the abscess. About an inch from the surface pus was found. The abscess was incised and about an ounce of cream-colored pus escaped. For the purpose of securing more efficient drainage a very small trephine was applied over former site of operation, and an opening made in the floor of the abscess cavity. The middle ear, the primary seat of suppuration, was thoroughly scraped out with a Volkmann's spoon and thoroughly disinfected. The first trephine opening was closed with bone from the disc removed, an aperture sufficiently large being left for the drainage-tube. Another drain was introduced from below, thus securing efficient through drainage. An antiseptic occlusion dressing finished the operation. The effect of the operation was marvellous. The stupor disappeared promptly and full consciousness was restored in a few days. The discharge was slight, and at present the boy runs about and plays, nothing indicating the gravity of the former lesion. The defect in the skull has been almost completely repaired, a slight depression indicating the location of the trephine opening.

Dr. MacEwen places great stress on the importance of replacing the disc of bone *in toto* or in fragments after trephining, for the purpose of obtaining closure of the opening by bone during the reparative process. He is a firm believer that in an aseptic wound completely detached fragments of bone not only retain their vitality, but take an important part in the process of repair. A number of cases which I saw in his wards would certainly tend to prove the importance of imitating his practice.

This operation for the radical cure of hernia by inversion of sac and closure of inguinal canal by stitch-

ing the pillars over each other has yielded the most satisfactory results in his hands. The inverted sac forms a cushion over the double layer of tendinous structures, conditions which necessarily offer a maximum resistance against the subsequent intra-abdominal pressure which, after the ordinary operations, tends so often to a recurrence of the hernia. He has performed the operation a great many times and has lost only one case from peritonitis and has never observed a return of the hernia.

I visited the Royal Infirmary with Dr. MacEwen, and saw another case of cerebral surgery. A little boy about 4 years of age who was running about the ward was pointed out as one of the most recent cases. The lad sustained an injury of the skull in the temporo-parietal region a few months before admission. Almost immediately after the injury hemiplegia was observed on the opposite side. The paralysis remained and was complete on his admission into the hospital. A few weeks ago, under strict antiseptic precautions, the disc of bone was removed over the fissure of Rolando at a point corresponding to the motor centre for the lower extremity. The dura mater was found tense and not pulsating. The dura was incised and several ounces of a clear fluid escaped. Further examination revealed a subdural cyst lined with a brownish membrane, a sharp fragment of bone from the internal table of the skull was found projecting into the brain and was removed. The interior of the cyst was scraped out with a sharp spoon and another smaller opening made in the skull and membranes at a lower point for more complete drainage. The large disc was replaced, only a small opening being left to secure drainage at this place. The case was explained by assuming that the injury produced a fracture of the skull and subdural hæmorrhage sufficient in amount to cause the primary paralysis, and that a cyst formed at the site of the blood clot which kept up the paralysis.

The operation was performed about six weeks ago, and was followed immediately by disappearance of paralysis, so that at present both motion and sensation are nearly perfect. The bony wall at site of operation is perfect and only slightly depressed.

Another case of injury to the skull was shown which illustrates in the same striking manner the prompt effect of surgical treatment. A young man in perfect health received an injury to his skull some two years ago. No symptoms attributable to the injury were observed until six weeks ago when patient was attacked with severe headache and epilepsy. He had a hundred or more attacks daily, but never completely lost consciousness. The muscular spasms were limited to the side opposite where the skull was injured. At the point of injury a slight depression could be felt. At this point a disc of bone was removed with the trephine, which directly exposed the brain, showing that the meninges were ruptured at the time the injury occurred. Where the brain was exposed a limited circumscribed area of inflammation and softening was found, but no indications of supuration. The diseased tissue was removed with a sharp spoon, and although the patient at this time appeared to be thoroughly under the influence of chloroform, he had a violent convulsive attack. The cavity created by the spooning was drained through a defect of the bone disc and the usual antiseptic dressing applied. Since the operation the patient has been free from pain and convulsions, and as the wound is nearly healed we can safely assume that the recovery will be complete.

The three cases related above show conclusively to what extent cerebral surgery can be practiced with success in cases which heretofore were doomed to succumb to certain death. Dr. MacEwen is taking a great interest in this modern department of surgery, and we may safely predict that a man of such ability and indomitable energy will point out

new indications and methods of operation for the successful treatment of injuries and pathological conditions of the brain and its envelopes. Dr. MacEwen advocates the propriety of treating subcutaneous transverse fractures of the patella from muscular contraction, by suturing, as he claims that in all such cases bony union by any other measures is prevented by interposition of soft parts between the fractured ends, and that an apparent good result after the ordinary methods of treatment always leads to bad functional results by the gradual elongation of the cicatricial tissue between the bone ends. Fractures of the femur are treated by an outside long splint well cushioned, and short splints surrounding the thigh. After excision of the elbow-joint he resorts to passive motion as soon as the wound is healed. During the day the forearm is flexed upon the arm, and supported here with an elastic band passed over the opposite shoulder, which tends gradually to increase the flexion, while at night the arm is straightened by weight and pulley extension.

He makes a very important suggestion to obstetricians by advocating the substitution of subcutaneous osteotomy for the more grave operation of abdominal section in cases of greatly contracted pelvis. He claims that his experiments have demonstrated that section of the pubic bone an inch and a half or two inches from the symphysis pubis and section of the ascending rami of the ischium, would add one and one-half inches to the antero-posterior diameter of the pelvis, and that in case more room is required the ilium could be divided on each side. It would seem that this suggestion should be seriously considered by obstetricians, and as Dr. MacEwen is ready to do this operation the first opportunity that presents itself, it is to be hoped that the profession of Glasgow will call upon the master of subcutaneous osteotomy in the first case where such a procedure is indicated, so that he may demonstrate the feasi-

bility and advisability of substituting a simple and safe operation for cases which have been until now subjected to abdominal section, which, so far, has been attended by a fearful mortality. N. SENN.

ABERDEEN AND EDINBURGH.

Alexander Ogston—Osteotomy for Pes Planum—Antisepsis in the Aberdeen Hospital—Lumbar Abscess—Fungous Osteo-myelitis of Femur—Dr. Keith—His Method of Operating—Treatment of the Pedicle—Suturing the Abdominal Wall.

*Dear Dr. Fenger:—*One of the principal objects of my tour through Scotland was to see in the flesh the man whose name I had so repeatedly mentioned to my class, the discoverer of the pus microbes, Professor Alexander Ogston, of Aberdeen. While the scientific world knows but little of Aberdeen, its hospital and its University, the name of Ogston has penetrated to all parts of the civilized world. Dr. Ogston is a man in the prime of life, tall and handsome. Although a profound scholar, an able surgeon, and a splendid writer, he is one of the most modest men I have ever met; a good illustration that greatness is not incompatible with modesty, but rather the reverse. In my conversation with him I could not but draw a comparison between him and the average doctor in a medical society, who is full of experience and crammed with positive assertions. Although living in a comparatively small city, Dr. Ogston's life is an exceedingly busy one. He holds the Chair of Surgery in Marshall College, where he teaches the various branches of surgery, including otology, ophthalmology, and gynecology; at the same time he attends to the clinical work in the Infirmary, and a large private practice. I visited with him the Royal Infirmary, a building more than fifty years old, with 300 beds, nearly one-half of which are occupied by surgical patients. Although the sanitary condition of the Infirmary is quite defective, all wounds showed that even under unfavorable cir-

cumstances, good results can be obtained by strict antiseptic precautions.

One of Ogston's operations, osteotomy for pes planum, was illustrated by a number of patients in the hospital. The operation consists in the removal, with a chisel, of a wedge-shaped piece of the tarsus with the base of the wedge directed downwards, so that when the osseous surfaces are brought into apposition the arch of the foot is restored. Coaptation and fixation is secured with two disinfected bone-nails and a plaster-of-Paris dressing. In all aseptic wounds the bone-nails disappear by absorption. He has done the operation forty times, and has never observed any serious results; and in only one case the deformity returned, and was permanently corrected by a second operation. He does not resort to this operation indiscriminately in every case of flat-foot, but only in such cases which do not yield to simpler measures, such as rest and fixation. About three months are required for firm bony union to take place, and he insists that the patients should not be allowed to step upon the foot before this has taken place, otherwise a return of the deformity would be inevitable.

An excellent proof of the care which is exercised in this old hospital in preventing wound infection, is the fact that all abdominal sections performed by Dr. Ogston and his colleagues, some thirty in number, recovered. For disinfection of the hands and field of operation the surface is washed with soap and warm water, and rubbed with a piece of pumice stone, after which it is washed with spirits of turpentine, and lastly with a 5 per cent. solution of carbolic acid. The instruments are treated with turpentine, washed with carbolized solution, and immersed in a 5 per cent. solution of carbolic acid. Dr. Ogston does not hesitate to walk from the dissecting room or after a course of operations upon the cadaver, directly into the operating room and perform any oper-

ation, and has never observed any ill results of such a course when the hands are thoroughly disinfected.

I witnessed two operations in his clinic. The first was for an abscess, which had evidently commenced in the lumbar region and had gravitated below Poupert's ligament. He prefers, in all these cases, to make a free incision just above the iliac crest, and drain the abscess from this point. He also called special attention to this method of operation, as it enabled the surgeon to seek for the cause of the suppuration in the lumbar region and the iliac fossa, and to remove the primary cause through the same incision should circumstances dictate such a course. He has never observed a ventral hernia after this operation.

The second case was one of fungous osteomyelitis of the lower end of the femur, which had been operated upon some years ago, but the pain had recently returned. The femur was opened on the outer surface with the chisel, by removing quite a large piece of the compact layer. The interior was gouged out thoroughly, and after thorough cleansing and disinfection the cavity was allowed to fill with blood, after removing Esmarch's constrictor, and an antiseptic dressing applied. This manner of hastening the healing process in all wounds attended with loss of substance, first suggested by Schede, has yielded good results in Ogston's hands.

While in Edinburgh I called on Dr. Keith, and spent nearly two hours with him in conversation, which afforded me an excellent opportunity to become familiar with his views on hysterectomy and ovariectomy. Dr. Keith's personal appearance is striking and characteristic. Although not an old man, he shows only too plainly the effects of a life spent in the cause of his profession and for the benefit of suffering humanity. He walks with a stoop, his frail body being bent under the weight of many years spent in the performance of an arduous pro-

fessional career. The wasted form and the deep furrows in his face only too plainly tell the story of the many anxieties, the hopes and the fears through which he has passed in affording relief to his many clients. A history of his life would reveal many a hard struggle which he encountered in his efforts to reach the prominent position he occupies, by universal consent, in the department of surgery, for which he has done so much in elevating it from the mire of empiricism to the dignity of a science. The unwritten history can be readily read upon his countenance, which shows only too plainly the effects of hard, conscientious work; the thoughtful and sad expression speaks of the many encounters with an ungrateful and unappreciative public, and the many sad experiences with a jealous profession. A look at his eyes, however, must satisfy any one that determination, energy and enthusiasm can live in a frail body. These qualities which he possesses will explain the mystery of the marvellous amount of work which he has accomplished, and the wonderful results he has obtained under circumstances which have discouraged even the strongest of men. When we realize the limited hospital advantages which are furnished him in the Royal Infirmary, we must admire the man who can show such results. The victories which have been so dearly bought at the expense of health, and in all probability of a portion of life itself, are the most appropriate and lasting monuments of an unselfish life spent in the interests of the profession of his choice and suffering humanity. In the Royal Infirmary he has sixteen beds and only one nurse. His son, Skene, is his assistant.

His operations are performed in a small room heated by an open grate fire, and but poorly supplied with light. Only a few students are invited to the operations. The patient is placed upon a board, to which she is fastened with a strap across the hips, and hands tied to it on each side; the board rests

with each end upon a table, the operator and assistant standing one on each side between the tables. The room is disinfected before each operation with chlorine gas. The abdomen of the patient and hands of operator and assistant are washed with a strong alkaline solution for the purpose of removing the fatty substances which, according to Keith, are carriers of the septic germs. After thoroughly washing the parts, they are disinfected with a weak solution of corrosive sublimate. Sponges are used over and over, cleansing them after each operation in warm water, and subsequently in an alkaline solution; they are kept for use in a 5 per cent. solution of carbolic acid. During the operation they are kept immersed in a 2 per cent. solution of carbolic acid. The spray he has abandoned, since he has suffered from repeated attacks of hæmaturia, and if anything the results have been better since. Instruments are well cleansed after each operation, and during the operation they are kept in the strong solution of carbolic acid. All adhesions are carefully separated and each bleeding point tied with catgut. Ovarian cysts are tapped with a large straight trocar just as soon as the peritoneal cavity is opened.

From the descriptions I had read of his treatment of the pedicle I had always been afraid to adopt his method, but after I had seen the method applied I became convinced of its safety. The pedicle is firmly compressed in his clamp, and two or more cautery irons heated to a dull red heat are applied for a sufficient length of time to heat the metallic plates of the clamp sufficiently to gently cauterize the compressed portion of the pedicle. The compressed tissue must be rendered "dry," and when this has been accomplished it looks like a transparent membrane. Some practice is necessary to graduate the heat for each individual case, but when properly done hæmorrhage never occurs. Dr. Keith affirms that the tissues thus treated do not slough, but are

speedily supplied with new blood-vessels. He has seen new blood-vessels in the cauterized portion of the stump after twenty-four hours. Before the clamp is removed each side of the pedicle is carefully seized with forceps which do not tear, and any vessel which might contain blood is separately tied. In the many hundred cases treated by this method hæmorrhage was never observed—certainly the best argument in favor of the reliability of the method. The only case of hæmorrhage after ovariectomy which he observed was in a case where both ovaries were removed; on one side the pedicle was treated with the cautery, on the other the ligature was applied. Patient died in six hours. The post-mortem examination showed that death had been caused from hæmorrhage which had taken place at a point where the pedicle had been perforated with a forceps for passing the ligature; the forceps had injured a vein wall, and from the opening thus made the hæmorrhage had occurred.

Suturing of the abdominal wound is certainly done more neatly and thoroughly by Keith than any other ovariectomist. Medium-sized silk is used, cut in length of about eight inches, each end of a suture is mounted with a long, delicate needle, which bears the operator's name. The needles are passed from within outward, and after all sutures are in place they are picked up in a bundle on each side and the abdominal wall gently lifted so as to bring the peritoneal surfaces in accurate apposition, and while an assistant holds the parts in this position by making pressure on each side with his hands, the sutures are tied. To every inch at least three sutures are used. The skin is accurately united by applying a horse-hair suture between each of the silk sutures, thus securing the most accurate approximation and coaptation of the margins of the wound. After excision of the breast he relies entirely upon the horse-hair suture. The wound is covered with a small compress of hygroscopic gauze wrung out of a solution of 1 part of

carbolic acid and 7 parts of glycerine. Over this a compress of common gauze or cotton is placed, and the whole retained in place with a flannel bandage. This dressing is allowed to remain for a time, when it and the sutures are removed. The bowels are kept quiet for a week, when a gentle laxative is administered. Catheterization is avoided whenever the patient is able to pass the urine without assistance.

N. SENN.

EDINBURGH.

Skene Keith—Ovariectomy—Tapping Cysts of the Broad Ligament—Myo-fibroma of the Uterus—Professor Chiene—Resection of Knee and Ankle—Amputation of Thigh—Resection of Hip—Professor Anandale—Resection of Knee—Tuberculosis of Knee—University of Edinburgh.

Dear Dr. Fenger:—I had the pleasure of witnessing an ovariectomy by Mr. Skene Keith, assisted by his father, Dr. Keith. Young Keith has inherited many of the good qualities of his father, and promises to become one of the most successful ovariectomists. I doubt if ever a man of his age could show such a record of cases as he has recently published, and it is only just to say that the statistics published by the Keiths can always be relied upon.

The patient was 74 years of age, and the tumor had been growing for two years and had been several times tapped. The cyst was large, and in the pelvis a number of hard nodules could be felt. The operator and assistant were in shirt sleeves and wore an apron. Ether was used as an anæsthetic. The abdominal incision was about three inches in length, and the cyst was tapped, and, as its contents escaped, it was drawn forward into the wound. When nearly empty it was freely incised, the hand introduced and a number of smaller cysts crushed, which diminished the tumor sufficiently in size so that it could be brought out of the wound. The pedicle was treated as above described, and after the removal of the clamp the compressed cauterized portion looked like a dry translucent membrane. A number of firm adhesions to the abdominal wall were carefully isolated, tied on each side and cut between the ligatures. The

operation was done slowly and carefully, and afforded a good illustration of what is meant by conscientious scientific surgery. A number of convalescent patients were shown where abdominal section had been done for different indications, and all of them were doing well. An old lady 78 years of age had an ovarian tumor removed three weeks previously, and now insisted on leaving her bed, as she insisted that she felt stronger and better than before the operation. In one case the pelvic adhesions were so extensive and firm that only part of the tumor could be removed; the remainder was fixed in the wound and drained, and the patient was doing well and the tumor becoming smaller in size. Dr. Keith has observed numerous permanent cures after simple tapping of cysts of the broad ligament, and is in favor of resorting to this simple procedure in all such cases as a preliminary or tentative measure before exposing the patients to the increased risks of an abdominal section. In spite of his unparalleled results in the operative treatment of myofibroma of the uterus, he assured me that as his experience increased with this class of tumors the more he dreaded a radical operation. Dr. Keith is a representative conservative surgeon, but he can never be accused of possessing a "statistical conscience," as when the indications for an operation are clear to him he will never shrink from the responsibility of an operation, no matter how desperate the case may be, for the sake of improving his statistics. His fame is established, his record is made, and whatever his statistics in the future may be, the scientific world can rest assured that it is the result of honest, conscientious work. The second evening in Edinburgh I spent in the family of Dr. Keith, as I had been invited to dinner. I felt that I was surrounded by the blessings of a truly Christian home, and the evening was spent in discussing abdominal surgery. Although the weather was cold

and a drizzling rain rendered out door exceedingly unpleasant, the doctor insisted on accompanying me to the hotel, where he bade me an affectionate farewell, and I retired with pleasant thoughts of the many profitable hours spent in his genial presence.

While in Edinburgh I attended a lecture by Professor John Chiene, on Resection of Knee and Ankle-joint, and Amputations of Thigh. After resection of knee-joint he does not resort to any immediate measures to secure coaptation and immobilization, but relies on extension by means of weights and pulley, to prevent posterior displacement of tibia. Only a moderate degree of extension must be applied, so as to overcome the contraction of the hamstring muscles without affecting diastasis of fragments, which might lead to pseudo-arthritis. Carden's transcondyloid amputation was clearly described, and a comparison drawn between it and Syme's amputation through the ankle-joint. In Gritti's amputation the bone is divided higher up, so as to make room for the patella, and this operation resembles Pirogoff's amputation through the ankle-joint. In this operation the great difficulty that presents itself is the tilting of the patella, which, when it takes place, interferes in obtaining a satisfactory result. The patella must hang loosely over the sawn surface of the femur, and when this is not the case it will become necessary to divide the insertion of the quadriceps femoris from within with a tenotomy knife. In amputations at the hip-joint in children, and in adults who have become greatly emaciated, he prevents hæmorrhage by circular elastic constriction applied at a point corresponding to the perineum and above the tip of the trochanter major. After making the flaps and ligating all visible vessels, the constriction is removed and the upper portion of the femur laid bare by a longitudinal incision and disarticulated. In fleshy people he recommends the use of Spence's skewer, which is passed

through the hip-joint in the same manner as the amputating knife in the old operation, and after transfixion the tissues anteriorly and posteriorly are constricted separately by winding over the ends of the skewers a rubber cord in a figure of 8. The anterior flap is made first and the large vessels are tied; after disarticulation the posterior flap is carefully examined and all visible points tied, when the constrictors are removed separately and additional bleeding points secured. By resorting to this simple procedure the lecturer claimed that hæmorrhage could be reduced to a minimum.

In excision of the hip-joint he has tried the more conservative method of removing only the head of the femur, but experience has taught him that this method of operation does not afford adequate drainage, and he has been obliged to come back to complete excision, so that at present he always removes the trochanter major. To prevent muscular contraction after amputation of the thigh he resorts to a novel device. Sheet lead is moulded to the shape of the stump and applied over the dressings; the weight of this splint, it was claimed, would suffice in preventing undue muscular contractions. Professor Chiene is a fluent speaker and most excellent teacher. Almost every member of the large class listened with undivided attention and took full notes of the lecture. In a small but well supplied laboratory Prof. Chiene, with the help of his assistant, Dr. Edington, important and valuable work is done in bacteriology. Here specimens are examined and diagnosis are made, and all known germs are cultivated, and a considerable enthusiasm prevails for the detection of new microbes. It seems to me that every teacher of surgery should imitate the example of the Glasgow professor of surgery in making observations and researches independently of the teacher of general pathology, as in doing so the student's attention is constantly called to the importance of surgical pathology.

I had the pleasure of accompanying Professor Annandale through his wards, and of witnessing several important operations. Prof. Annandale is a perfect type of a Scotch or English surgeon, a good anatomist, skillful with the knife, a dexterous but careful operator. An immense clinical experience enables him to diagnose surgical lesions and injuries almost on sight, and with remarkable accuracy. He has abandoned typical resections of the knee-joint in children in favor of arthrectomy and atypical or partial excisions. The details of antiseptic wound treatment he considers superfluous, and relies mostly on dry dressings, as sublimated cotton. After excision of the knee-joint, he applies a hollow posterior wire splint, with an opening for the heel. This splint is well padded and covered with Mackintosh cloth, so as to render it impermeable to fluids. It is applied immediately after the operation and fixed to limb with a plaster-of-Paris circular splint extending from toes to near the perineum, with an open space for the knee. This dressing completely fixes the limb, and at the same time permits changes of wound-dressing without removing the splint.

His method of treatment of affections of the knee-joint which call for operative measures, was illustrated on a boy about 18 years of age, suffering from tubercular disease in its earlier stage. The joint was only moderately swollen and the operation could certainly be designated an early one. Volkmann's incision was made and the patella divided transversely with a saw. The synovial membrane was dissected away with a knife and the articular cartilage was partially removed in slices with the same instrument. A fungous osteitic depot was found in the internal condyle of the femur, and was gouged out, as well as a similar but smaller focus in the head of the tibia, near the articular cartilage. After irrigating the wound with a weak solution of sublimate

and arresting hæmorrhage, the patella was united with one silver wire suture, the ends of which were cut short and hammered down upon the bone. A small drain was introduced at the most dependent point on each side as far as the bone. Protective silk and sublimated cotton constituted the dressing. The limb was immobilized in the manner described above. The next case was a resection of the wrist for a suppurating tubercular lesion of the joint, in a female 35 years of age. A single long incision was made over the middle dorsal aspect of the wrist, and after opening the radia-carpal articulation the lower end of the radius was brought into the wound and the whole articular surface removed with the saw; all of the carpal bones were removed, as well as the articular surfaces of the metacarpal. The wound was repeatedly irrigated, and drainage established anteriorly by pushing a dressing forceps through the tissues, cutting the skin and widening the tract by distending the blades of the forceps, a drain was introduced and the wound closed by suturing. Wound-dressing the same as in previous case. The hand and fore-arm were fixed upon a pistol shaped splint.

I visited Greenfield's laboratory, where I had an excellent opportunity to study a great variety of bacterial cultures. One of the favorite culture substances in this laboratory is bread paste. Although the microbes do not show so well upon this substance as gelatine or agar-agar, the cultivations were very large and could be readily recognized. The Medical Department of the Edinburgh University contains, as I was told, nearly 2,000 students, and to judge from the crowded condition of the lecture rooms and the crowds in the halls rushing from one room to another, the estimate cannot be far from correct. Although the system of instruction is perfect and the means for demonstrations excellent, and most of the teachers have more than a local reputation, I could not but think that the students injure their own in-

terests by congregating in such numbers, and that it would be advantageous to them if at least half of the number would seek places of instruction where the same facilities are offered, and where the teachers can devote more time to each individual student.

N. SENN.

LONDON.

Charing Cross Hospital—King's College Hospital—Sir Joseph Lister—The Spray—Sir James Paget—St. Bartholomew's Hospital—Ovariectomy—Antisepsis—Tarsotomy as it should not be done—Museum of the College of Surgeons—Professor Stewart.

Dear Mr. Fenger:—My hospital visits in London began with Charing Cross Hospital. This institution is centrally located and was built in 1837. It contains nearly 200 beds, and affords a fair opportunity for studying accidental surgery, as the majority of cases treated here are recent injuries. Bloxam, Belamy and Barwell are the surgeons in attendance. Although the spray is still in use and antiseptic dressings are applied, I found many of the wounds suppurating; the best possible proof that the essential and pedantic details of modern treatment of wounds are not fully carried out in practice. Carbolic acid is used as an antiseptic. Frequent changes of dressing are undoubtedly responsible, in many instances, for the numerous failures in securing primary union of wounds. As in most English hospitals, the mechanical treatment of injuries and after resections consists in the use of complicated and ingenious splints which, in the hands of their inventors, answer an admirable purpose in securing rest for the parts and comfort to the patient. Almost every hospital surgeon has immortalized himself by the invention of some kind of a splint, and never tires in pointing out its advantages and the indications for its use. Every London hospital has its own medical school. The building for the school of this hospital is quite small, smaller than any of the college buildings in Chicago, and the material used for illustrating the

lectures is entirely inadequate. The class which expects to become proficient in the healing art in this temple of Æsculapius numbers about 200. For a foreigner to visit such a school in the proud city of London it must become evident that science indeed travels westward, when he compares its lecture-rooms with those of the medical colleges in Chicago.

With such reflections I left this hospital and turned my way towards King's College Hospital, where I was to meet the father of antiseptic surgery. I was full of anticipations of what I should see and learn at the feet of the man whose teachings had revolutionized the practice of surgery throughout the entire civilized world. How great my disappointment! A walk through the wards of Sir Joseph Lister soon convinced me that prosperity and honors, even if well deserved, only too often exert an injurious effect upon the scientific career of distinguished professional men. Sir Joseph Lister of to-day is only the shadow of Mr. Joseph Lister of 1876. The dressings which I was shown only corroborate this statement. The only thing that was new to me in the way of dressing wounds was the colored gauze, which is used to distinguish it from gauze not rendered aseptic. Great importance is placed upon the disappearance of color on the surface of the gauze, as an indication that the secretions from the wound have reached the surface, an occurrence which is looked upon as a necessity for a change of dressing. A number of lumbar abscesses were shown which had been simply incised and drained, and where the whole dressing was composed of a very thin and small compress of gauze and a layer of absorbent cotton still smaller than the gauze compress. The tension suture, which has been in general use for more than ten years, was shown and explained as though the hearers had never seen or heard of such a thing.

The German command, *Fort mit dem Spray!* has

been obeyed here. The antiseptic solution in use is a combination of corrosive sublimate and muriate of ammonia, which is preferred to the simple solution of sublimate. I am firmly convinced of the fact that had Mr. Lister remained as such in Edinburgh, the scene of his former active life, his scientific existence would not have terminated so abruptly, and many additional discoveries and improvements would have been inscribed upon his tablet of fame. Although his scientific career ended with his change of residence to London, Sir Joseph Lister must be considered as the greatest of living surgeons. The seed that he has sown has brought fruit which has been the means of saving thousands of lives. The principles of antiseptic surgery as taught by him have found the most fertile soil in Germany, where the treatment of wounds has been simplified and improved to such a degree of perfection that primary union is the rule, and the dreaded complications, septicæmia and pyæmia, are almost unknown. Indeed, it must be a great source of satisfaction for Sir Joseph Lister to know that the method of practice he promulgated so strenuously for nearly a decade has been perfected by the most prominent surgeons on the Continent, and that through it the principles and practice of surgery have undergone a complete revolution. It is not my intention to abstract from the greatness of Lister, but I cannot but deplore that for nearly ten years he has been but little else than a spectator in the arena of the surgical world.

Among the most pleasant and profitable hours spent in London I must include a visit to Sir James Paget. Around the breakfast-table we discussed for nearly two hours matters pertaining to surgical interests on both Continents. Any one who has had the pleasure of a personal acquaintance with this gentleman will not wonder any longer why he has by universal consent been the leader among medical men, not only in his own country, but almost the

entire world, for nearly half a century. It would be difficult to find a man possessed of so many admirable qualities in the same degree which fit him for such position. A ripe scholar, a clear writer, a model teacher, a successful surgeon, an eloquent speaker, a perfect gentleman, are happy combinations but seldom found in the same person.

He resigned his hospital positions twelve years ago, and is now devoting his whole time to consultation practice and scientific studies. He is inclined to the belief that antiseptic surgery will eventually mean surgical cleanliness. Although advanced in years, his interest in the welfare of his profession remains unabated and his habits of industry unchanged. He not only reads the literature pertaining to surgery from every possible source, but is likewise perfectly familiar with the recent advancements in the collateral sciences. Through his kindness I found ready entrance into the museums, hospitals and educational institutions of London.

At St. Bartholomew's Hospital I witnessed an ovariectomy by Mr. Langton. This hospital contains about 600 beds, and is connected with a medical school attended by about 350 students. The operation was performed in Martha ward, on the fourth floor, where a small amphitheatre, with room for about twenty spectators, has been built. The room is heated by an open grate fire, and the temperature was not over 70° F. The spray is used during the operation. The patient was 70 years of age and the tumor had been growing for three years. Examination revealed a large cyst in the abdomen, and a number of hard nodules in connection with the cyst could be felt in the pelvis. About fifteen students were present. The usual antiseptic precautions were observed during the operation. The abdomen was opened by an incision through the linea alba about four inches in length, and the cyst tapped with the large trocar of Spencer Wells. The puncture

was followed by a free escape of fluid along the sides of the trocar, and some of it entered the abdominal cavity, and the wound was freely irrigated with the cyst contents. Sponges were used to remove the extravasated fluid, and as the cyst collapsed it was drawn out of the wound, an act which was readily accomplished, as no adhesions were found.

It has always seemed to me that the use of a large trocar with a truncated cutting edge in tapping a tense cyst is attended invariably by extravasation of fluid, and consequently increases the risk of peritonitis. When the cyst contents are fluid, the patient should either be placed upon her side during the tapping, and proper precautions adopted to prevent entrance of fluid into the abdominal cavity, or the cyst should be emptied sufficiently to bring it into the wound by the use of a small trocar or by aspiration. In case the contents are colloid they will escape through no tube, and incision of the cyst with the patient upon her side, and traction upon the cyst wall so as to keep it in uninterrupted accurate contact with the abdominal wall, are the only measures which will accomplish the desired object with safety. The pedicle was transfixed with a long-handled needle armed with a double ligature, tied on both sides, cut short and dropped. The peritoneal cavity was sponged out and the abdominal wound closed in the customary manner. The external wound was dusted with iodoform and a typical Lister dressing applied. The dressing proper was fastened upon the abdomen with broad strips of adhesive plaster; over this a cotton compress was applied, retained with a broad flannel bandage. The lower extremities of the patient were covered with a flannel blanket, but no external heat applied. Hæmorrhage, wherever it was discovered, was carefully arrested with hæmostatic forceps and catgut ligatures. In this hospital all cases of ovariectomy are turned over to Mr. Langton for operation.

In Mr. Savory's wards in this hospital, I was informed by the house surgeon, Mr. Burd, no pretension is made to practise antiseptic surgery, and the resident staff allude with pride to the fact that during the last eleven months only one case of pyæmia occurred, and that the majority of wounds heal without suppuration. Thorough cleanliness in the ordinary sense of the word is enforced, and the wounds are protected with an oiled strip of cloth or covered with a moist compress.

In the operating theatre I found one of the attending surgeons, whose name I do not care to mention, ready to perform tarsotomy in a case of aggravated clubfoot. An incision was made in each side of the tarsus, and after many difficulties and perplexities, a tunnel was made underneath the tendons from one incision to the other, and a chain saw passed through with a probe. Now the difficult task commenced of sawing in the right direction. Two assistants attempted to obey the directions of the operator, but the chain failed to take the proper direction. Disgusted with the performance, the operator took his turn, but utterly failed to correct the insane inclinations of that beastly but determined chain to deviate from the erroneous path. After sawing in multiple directions, the bystanders were assured that one of the incisions of the **V** had been made, and the chain was slipped toward the ankle-joint and was again set in motion, and after the exertion of a good deal of muscular force, which brought the sweat upon the brows of all immediately concerned in the transaction, it was concluded that the **V** was made. By this time the operator had become very nervous, and with the forceps made a plunge for the superfluous piece of bone; and after numerous attempts he succeeded in removing a number of fragments.

When an attempt was made to straighten the foot the disgusted operator convinced himself that more bone must be removed. Instead of using a fine

straight saw, or the more modern chisel, he persisted in the use of that rebellious instrument that had already caused so much trouble and anxiety—the chain saw. After another free use of this abominable instrument a few more fragments were removed, and forcible attempt made to bring the foot in proper position. As this could not be accomplished, it was decided that the tendo Achilles was at fault, and this offending structure was handed over to the liberal use of the tenotome. Another forcible attempt to straighten the foot converted the subcutaneous tract into an open wound, and as all the resources had been exhausted by this time, a typical Lister dressing was applied. When Esmarch's constrictor was removed the dressings soon became saturated with crimson blood, which called for more antiseptic material and firmer compression. The surgeon, at this stage of proceedings, was covered with perspiration, and only revived after the patient was carried into the ward and out of sight. I am unable to say what became of the case, but if foot and life were preserved, it is safe to predict that another operation will be required in the future, or London's army of paupers will receive an additional increase.

Nearly a whole day I spent in the Museum of the College of Surgeons, under the kind guidance of Professor Stewart, a distinguished scholar and scientist. By stipulation a number of lectures must be delivered in this institution annually. The present course is given by Prof. Stewart, "On the Comparative Anatomy of the Internal Ear." I had an opportunity of examining the specimens used in illustrating these lectures, and it is safe to claim that no second collection of this kind could be found. A large and valuable library is accessible to all of the members of the college. The Museum contains John Hunter's collection. With this enormous collection as a nucleus, and the liberal donations which have been made by the Fellows and members since its

foundation, this museum outranks anything of its kind in the amount of material it contains and the way in which it is classified. The specimens are so arranged that any subject in anatomy, physiology and pathology can be looked up and studied in a remarkably short time with the aid of a complete index, which can be found in its proper place in each section. Almost every subject is illustrated by botanical specimens and specimens of animals, from the lowest to the highest form. Under the head of monstrosities I examined a specimen of a foetus in foetu. The foetus was found in the pelvis of a boy 15 years of age, who died of accidental causes. The foetus is perfect in every respect, and is surrounded by a thick and dense cyst. The indefatigable energy and great genius of the illustrious founder of this wonderful collection become apparent by the many labels which are marked with his name.

N. SENN.

SURGEONS AND SURGERY IN LONDON.

St. Thomas's Hospital—Strangulated Hernia—Mr. Malcolm Morris—Mr. Pearce Gould—Mr. Timothy Holmes—Suppurative Inflammation of Shoulder Joint—Destructive Inflammation of Foot in Diabetes; amputation—Sir William MacCormac—Guy's Hospital; Its Museum—Congenital Hydrocele of the Cord—Mr. Thomas Bryant—Epithelioma of the Hands.

Dear Dr. Fenger:—A visit to St. Thomas's Hospital afforded me an opportunity to witness an operation for strangulated inguinal hernia by Mr. Sidney Jones, Senior Surgeon of the Hospital and Professor of Surgery in the school in affiliation with this institution. Full antiseptic precautions were observed, including the now almost obsolete spray. The patient, a man about 40 years of age, claimed that he was never aware that he had hernia until the evening before, when a swelling formed rapidly in the right groin, followed by symptoms indicative of a strangulated hernia. When admitted into the hospital the lesion was readily recognized as a strangulated hernia and several gentle attempts were made to reduce it by taxis, but without success. The tumor was nearly as large as a fist and very tense. A long incision was made down to the sac and all hæmorrhage carefully arrested before the peritoneal covering was laid open. On opening the sac a large mass of omentum came into view, underneath which a loop of intestine intensely congested was found. The omentum was divided into four parts just below external ring, tied with catgut, and the portion below the ligatures cut off and the stump returned. The internal ring was divided in the usual manner, the loop of intestine drawn forward, examined and re-

turned. At this stage of the operation it was evident that internal hæmorrhage was taking place as arterial blood escaped from the empty canal. A search for the omentum through the opening proved fruitless and it became necessary to lay open the entire inguinal canal, but even this extensive enlargement of the wound did not afford access to the retracted omentum, and the abdominal wall was incised for at least three inches more, when the omental stump was found and brought into the wound. One of the ligatures had slipped and caused free arterial hæmorrhage. The hæmorrhage was arrested by the application of another catgut ligature and the stump again reduced. The neck of the sac was tied and stitched into the wound. The extensive wound was closed with deep sutures including the peritoneum, drained and a dressing of iodoform gauze and cotton applied. This hospital is one of the best in London, contains 600 beds, which furnish the material for clinical instruction for the students attending the school connected with this institution.

A visit to the residence of Mr. Morris afforded me an opportunity to examine an excellent collection of renal calculi removed by nephro-lithotomy. Mr. Morris is a young surgeon of great promise, who has had an unusually large number of cases of renal surgery. He is one of the surgeons to the Middlesex hospital and enjoys a good reputation at home and abroad.

A call upon Mr. Pearce Gould, who lives in the same part of the city, was remunerated by a profitable conversation touching upon recent topics in surgery. Mr. Gould is a thorough scholar and an able surgeon, and has done excellent work in the Middlesex hospital.

At St. George's hospital, I made the acquaintance of Mr. Timothy Holmes, the author of a voluminous, and I might say the best, English text-book on surgery. Although advanced in years he still retains

his youthful energies and continues his work of giving regular clinical instruction. A female, 20 years of age, suffering from a suppurative inflammation of the shoulder joint, furnished the subject of his clinical lecture on this occasion. A contracted, fistulous tract commencing at the lower margin of the pectoralis major communicated with the shoulder joint. The joint was laid open by a straight anterior incision, and after severing numerous adhesions the upper extremity of the humerus was brought into the wound and the bone divided with an amputation saw just below the tuberosities. Parts of the capsule were removed with curved scissors and a drain introduced through the fistulous tract which had been previously scraped out and dilated. The dressing consisted of a thick compress of antiseptic gauze. He said nothing about the pathology of the case but made the assertion that in such instances it is superfluous to make the operation subperitoneal as such a procedure would be of doubtful advantage, but in case it became necessary to divide the bone at a lower level the periosteum should be preserved. The best functional results he has seen after excision of the shoulder-joint were patients who could raise the arm to a horizontal position.

When Mr. Holmes finished his remarks Mr. Hayward took his place and presented a diabetic patient who had recently become the subject of a destructive inflammation of one of his feet, which had terminated in extensive sloughing which had opened the ankle joint. Amputation was performed at the junction of the middle with the upper third of the leg, by making a long anterior and short posterior flap. The periosteal flap was made, and the flaps were sutured in the ordinary manner and a transverse drain introduced. A gauze dressing was applied. In this connection I will give you the result of a conversation with Professor Koenig a few days ago, concerning the propriety of resorting to ampu-

tation in diabetic patients suffering from gangrenous inflammation of an extremity. He stated that while it had been customary heretofore to resort to preparatory treatment prior to amputation, with a view of diminishing the sugar in the urine, he had during the last year operated upon several cases where the patients had high temperature and the urine contained large quantities of sugar, with the result that almost immediately after the operation the temperature became normal and the specific gravity of the urine less. The result of these observations has convinced him of the fact that it is dangerous to delay the operation whenever the local symptoms indicate the necessity for such a procedure in diabetic patients. In corroboration of this statement it may be said that quite recently a French chemist has shown that the introduction of septic material into the blood produces an artificial diabetes which disappears as soon as the septic condition subsides.

A third operation was performed by Mr. Dent. The case had been diagnosticated as lipoma, but during the dissection the cyst ruptured and the escape of otheromatous material showed the fallacy of the diagnosis and proved that the swelling was not a tumor but a retention cyst. I have every reason to believe that in many of these large metropolitan hospitals the diagnostic resources are not always exhausted prior to the operations, and that often the true nature of the case is only revealed during the course of the operation. Many of the most prominent surgeons are not exempt from this fault. The greatness of a surgeon should never be measured by the brilliancy of his operations but by the knowledge and care he exercises in rendering a correct diagnosis upon an anatomico-pathological basis.

The pleasure of my visit in London reached its maximum at a dinner with Sir William MacCormac, at the Reform Club. On this occasion I met the

house surgeons of St. Thomas's hospital, and Mr. Trimmer, Secretary of the College of Surgeons. I shall always cherish the recollections of that evening as a bright and verdant oasis of a laborious professional life. The last day of the week I spent in London I devoted to a visit to Guy's hospital. One of the great attractions of this institution is the anatomical and pathological specimens, modeled in wax by the skillful hands of Mr. Thomas Town, who spent nearly half a century of his useful life in their preparation. Hundreds of specimens, as natural as life itself, can be found here illustrating normal anatomy and pathological specimens. I know of no better anatomical school than the museum of Guy's Hospital, where, upon long tables under glass covers, the most beautiful models, taken from actual dissection, illustrate every organ and every region. The students appear to take advantage of this opportunity to master their anatomy, as quite a number were seated in front of the specimens with Gray's Anatomy in their hands. The models illustrating pathological specimens show the tissue changes much better than the original specimens. In the afternoon Mr. Davies-Colley operated upon a case of congenital hydrocele of the cord in a boy 8 years of age. The testicle could be distinctly isolated from the swelling, and there was reason to believe that the communication with the peritoneal cavity was a small opening. During the delicate dissection made with a view of extirpating the sac, it was found very difficult to isolate the cord, and the tunica vaginalis was opened at a small point corresponding to the upper surface of the testicle. The neck of the sac was ligated, and subsequent examination of the specimen proved the correctness of the diagnosis. The operation was performed under a spray and a Lister dressing was applied.

On a previous occasion I had made the acquaintance of Mr. Thomas Bryant, the author of the fa-

miliar text-book on surgery, and at this time I had an opportunity to hear him lecture and see him use the knife. From a practical point of view his clinic was unimportant, but exceedingly interesting from a pathological standpoint. The patient was an old gentleman who had been suffering from a papilloma upon the dorsum of one of his hands for twenty years. For the last two years the tumor increased quite rapidly in size and the surface ulcerated, features which led Mr. Bryant to the belief that the benign papilloma had undergone transformation into a sarcoma. To me it appeared that the transformation had taken place in the epithelial covering, and that the tumor was not a sarcoma, but a squamous epithelioma; an opinion in which I was confirmed in my own mind by a macroscopical examination of a section of the tumor, where the cylindrical cords from the surface of the tumor towards its centre could be distinctly recognized. Mr. Bryant's favorite antiseptic solution is a weak watery solution of iodine, which he prefers to any other antiseptic, and with which he has had most excellent results. In my next letter I hope to give an account of my observations gathered from the two most noted European laparotomists, Tait and Péan.

N. SENN.

TAIT AND PEAN.

Dear Dr. Fenger:—On Sunday evening, March 27, I called at the residence of Mr. Lawson Tait in Birmingham. As dinner-time was near at hand, I was invited to remain to meet some of his personal and professional friends. As I had been in training for some time to acquire the proficiency of eating two dinners in rapid succession, I readily consented to avail myself of this opportunity to meet the great laparotomist in the sanctum of his own home. Mrs. Tait is proud of the distinction her husband has attained, and takes a deep interest in his work. I found it quite difficult to keep Mr. Tait in the channel of thought for discussing subjects of professional interest upon which I wished to obtain information. The evening was devoted to social pleasures and the many good things spread upon the table, and I had to submit to the inevitable. During my conversation about my prospective trip to the Continent, I was made to understand that German gynecology was not appreciated in this part of England, and that it had done little or nothing towards the advancement of modern gynecology. If I had met with such an assertion under different circumstances I should not have hesitated a moment to resent most emphatically such an insinuation, and in support of my arguments I should have quoted the results of scientific investigations and conscientious work of such men as Schröder, Winckel, Olshausen, Hegar, Kaltenbach, Sänger, and others, whose names are household words wherever modern gynecology is known and appreciated; but under the existing conditions I had to control my temper and leave the remark unchallenged.

Mr. Tait takes great interest in specimens of an-

tiquity, and his capacious house is one great curiosity shop. That the Tait family is childless became apparent to me by the kind attentions which were bestowed upon a fine specimen of a Maltese cat. In my mind the sight of that cat revived the memory of the useful purpose I had assigned to that brute in my researches in experimental surgery, but as I was aware that Mr. Tait entertains no kindly feelings towards experimenters, I made no suggestions in this direction. It is not necessary for me to give a description of Mr. Tait's personal appearance, as the photograph I sent you some time ago speaks for itself. If you add to the large head, the long and capacious chest and still more voluminous abdomen a pair of short legs, you have Mr. Tait as I saw him.

The next morning at 9 o'clock found me again at Mr. Tait's house, as the operations were to be performed in his private hospital, which constitutes a part of his house. I was shown into a room where a number of physicians had congregated. As we were all strangers to each other, silence reigned supreme until we were informed by one of the nurses that everything was ready. We filed up a flight of stairs and entered one of the rooms, where we found Mr. Tait standing by the side of the anæsthetized patient in his shirt-sleeves and a rubber apron. The temperature of the room was comfortable. A female assistant administered the anæsthetic, and a young physician stood opposite Mr. Tait ready to render assistance, but it soon became evident that his presence was more ornamental than useful, as the operator appeared to require no assistance. The few instruments that I saw were kept in clean pans. The often described bag containing the sponges was hanging from a nail upon the wall, and was taken down and a few sponges thrown in a basin of warm water. The patient's abdomen had not been shaved, and was now sponged off lightly and covered with a rubber cloth with a slit in the centre. The first pa-

tient was a lady about 50 years of age, suffering from an abdominal tumor which extended a little above the umbilicus. The abdominal incision was made quickly and was about $2\frac{1}{2}$ inches in length. The omentum was found adherent to parietal peritoneum, and the adhesions were separated by tearing. As soon as the cyst was exposed it was tapped with the blunt fenestrated trocar devised by the operator. This instrument does not cut the tissues when it is pushed through the cyst wall, and consequently extravasation along the side of the tube does not take place, a source of trouble and danger attending the use of all trocars with a cutting edge. The pedicle of the cyst was twisted and appeared like an umbilical cord. The pedicle was transfixed with a long needle slightly curved at the end, and threaded with medium sized Chinese silk which, after the needle was withdrawn, was tied into a Staffordshire knot. The operator showed his unlimited confidence in this method of tying by dropping the pedicle at once in every instance, without examining the cut surface or separately ligating any of the visible vessels.

The immense experience Mr. Tait has had in this manner of securing the pedicle certainly entitles him to speak with authority, and after seeing him tie five pedicles I am convinced of the advantages of the Staffordshire knot over the ordinary methods of tying, and should recommend its general adoption. During the whole operation I observed that the abdominal wound was kept practically closed, either with the cyst, the pedicle, a sponge or the fingers of the operator. This I observed not only in this case but in all of the three cases, and to this circumstance, undoubtedly, a great share of the wonderful success of Mr. Tait must be ascribed. The operations are done, as it were, subcutaneously, thus reducing the danger from infection to a minimum, provided the hands of the operator, the instruments and the

sponges are aseptic, and that this is the case in Mr. Tait's practice I became convinced, and his results only corroborate this statement. Mr. Tait may not be an antiseptic surgeon, but he is certainly, in principles and practice, an ideal aseptic surgeon, whether he is willing or unwilling to acknowledge such a designation. The abdominal wound was closed with four deep sutures. A small gauze compress and a thick layer of cheap cotton, with a wide flannel bandage, constituted the dressing. Time of operation and dressing, twelve minutes.

As soon as the operation was completed, the visitors were requested to retire to the same room, where I spent half an hour in meditation, trying to unravel in my own mind the mysteries which had led this wonderful man to such unparalleled success, when I was aroused from my dreaming condition to reality by another message that everything was ready. The little crowd of seekers for knowledge were led into another room, where we could hardly find time to arrange ourselves around the table when Mr. Tait was already in the abdomen with his bulky index finger, searching for the ovaries. In this case the incision was a mere button-hole. We were informed that the removal of both ovaries and tubes would be done for the purpose of preventing pregnancy in the future, as the patient had suffered during and after delivery on account of a contracted pelvis, including the formation of a vesico-vaginal fistula, which however, had been cured by operation. Both ovaries and tubes were removed. It was also stated that the patient was suffering from prolapse of the uterus, and this opportunity was utilized and the uterus was stitched to the inner surface of the abdominal wound after both tubes and ovaries had been removed. The whole operation, including the dressing, occupied only seven minutes. I forgot to mention before that the dressing is first fastened upon the abdomen with numerous strips of adhesive

plaster which overlay each other, and embrace about two-thirds of the circumference of the body, over which another cotton compress is applied, and retained with a broad flannel roller.

To me the indications which had led to the removal of the ovaries and tubes in this case afforded abundant food for serious thought. There can be no question in my own mind, and in the mind of any one who has the well-being and happiness of his fellow-beings at heart, that it was not desirable that this woman should again be exposed to the dangers of another pregnancy; but as a practical American it occurred to me that it would have been wiser to resort to the less hazardous procedure of unsexing her husband, which would have certainly secured the same immunity at a minimum risk to life, and morally would have been more justifiable. This poor creature had suffered untold agonies, and why submit her to such a serious operation to procure sterility, when the same object could have been reached without any danger to life by unsexing the other party?

The third operation was set for 12 o'clock. I was told the evening before that this patient was probably suffering from a pelvic abscess, and I was exceedingly anxious to see the operation devised by Mr. Tait for the radical cure of this often intractable affection. The abdomen was again opened by an incision only sufficiently large to introduce two fingers. A brief digital exploration resulted in the announcement that the swelling in the pelvis was not an abscess, but a small fibroma of the uterus. As it was claimed that this tumor must be the cause of the recurring attacks of pelvic inflammation, it was decided to again remove the uterine appendages. One of the ovaries was adherent, and required more than the usual length of time for its removal. Duration of operation and dressing, nine minutes. The explanation of the cause of the pelvic inflammation

was new to me, as I had always entertained the idea that submucous and interstitial myo-fibromata of the uterus, even when of large size, seldom give rise to inflammation of the adjacent or contiguous tissues, but for the sake of the patient I hope that the interpretation of the case was correct, and that the operation will be the means of preventing future attacks, as the patient who has lost one of her most important organs is certainly entitled to an equivalent of happiness in another direction.

From what I gleaned from my observation in the practice of Mr. Tait, I have come to the following conclusions: 1. He is a skilful and dexterous operator. 2. He depends on a diagnosis by digital exploration in the majority of cases. 3. He removes the ovaries and tubes in cases for indications which few gynecologists would be willing to accept as justifiable for such a serious procedure. His wonderful success may be attributed to: 1, aseptic surgery; 2, small incisions; 3, no unnecessary exposure of peritoneal cavity; 4, perfect familiarity with pelvic and abdominal surgery as far as the mechanical performance of operations is concerned; 5, rapid operating; 6, careful personal supervision in the after-treatment. There can be no question that much of his success also depends on the fact that he performs his operations almost without assistance, and in this respect all laparotomists should lose no time in imitating his example. With all his faults, Mr. Lawson Tait has done much towards the advancement of gynecology, and we may learn from him many a valuable lesson which will add to our success in practice.

I arrived in Paris via London, Dover and Calais, March 29. My principal object in visiting Paris was to see some of the abdominal work of Péan. In the evening I called at his residence, but failed to see him, as he had gone out to make his evening visit. In the absence of her husband Mrs. Péan kindly invited me to attend his operations next morning at

the Hôpital, rue de Sarlé, where most of his abdominal operations are performed. The next morning at 9 o'clock I met him at the hospital, and was fortunate enough to see him perform two of the most difficult operations in surgery during the forenoon. Péan is a large man, with black hair and side whiskers, and is 58 years of age. His face shows intelligence and determination, and his whole appearance indicates a man of superior knowledge and great courage. As soon as I entered the operating room my attention was attracted by the display of numerous instruments; the number of large and small hæmostatic forceps could not be counted, but there must have been at least more than a hundred. Usually he has four assistants. The operator wore a fur-lined vest and rubber apron. The operating-room is quite small, and was not specially heated for the operations. Chloroform is used exclusively as an anæsthetic. Only five visitors were present at this operation, which gave us a good opportunity to follow every step.

The first patient was a woman about 35 years of age, who had been suffering for many years from a myo fibroma of the uterus which at present reached above the umbilicus. Shaving and disinfection with a sublimated solution (1-1000) was done by Péan himself after the patient was under the influence of the anæsthetic. During the operation the sponges are in the hands of two sisters; one of them washes them in warm water, while the other wrings them out of a 1-1000 solution of corrosive sublimate and hands them to the operator or one of his assistants. The instruments are all immersed in a 5 per cent. solution of carbolic acid, and the hands of the operator and his assistants are thoroughly washed and disinfected before the operation. During the operation the abdomen of the patient is covered with a rubber cloth with a slit in the center. The incision through the abdominal wall extended from above the umbilicus

to the pubis. Before opening the peritoneum all hæmorrhage was carefully arrested with forceps, which were allowed to remain. On opening the peritoneal cavity to the full extent of the wound the tumor came into view, but could not be delivered through the wound by manipulation, and the operator transfixed it from side to side with a large, stout curved needle supplied with a handle, which gave him an opportunity to make traction at the same time one of the assistants made compression of the abdomen from behind in a forward direction, and the combined forces readily brought the tumor out of the wound. The broad ligament on each side of the tumor, with the enormously distended vessels, was compressed with two forceps and divided between with a pair of scissors. After reaching the base of the tumor in this manner on both sides, an elastic tube was applied and kept in place at the point of crossing with a pair of forceps. As soon as the abdomen was opened an assistant protected the omentum and bowels with a dry towel which had been rendered aseptic by boiling in a sublimated solution; this precaution is kept up during the entire operation, so that none of the abdominal contents are brought into view. These towels are used whenever it becomes necessary to protect the peritoneal cavity, and sometimes several are in use at the same time, and when they become saturated with blood they are changed.

During the whole operation the operator sits between the patient's legs, a position which certainly offers great advantages in operations upon the uterus which are necessarily prolonged. After the elastic constrictor was applied the tumor, which was composed of many portions, was removed in large slices with a large amputating knife, and whenever hæmorrhage occurred it was at once arrested by applying the large compression forceps. At times at least twenty-four forceps could be counted in the abdo-

men. When the base of the tumor was reached the bladder came into view in front, and injury to its walls was carefully avoided by ascertaining its exact position by means of a catheter. In tying the short pedicle, composed of the uterus itself, a large blunt, curved needle, mounted on a handle, was passed on each side of the uterine canal, and the double ligature cut as the needle was withdrawn; this left four ligatures in two tracts. The outer portion on each side was tied with one of the ligatures which secured the large vessels on each side of the uterus, and the central portion was secured by tying two of the ligatures in front and behind. The remnants of the tumor above the ligatures were carefully dissected out, the mucous membrane of the uterine canal excised and the canal closed with deep silk sutures, all visible vessels were carefully tied with catgut, the surface cleansed, closed and dusted lightly with iodoform. The cut surfaces were brought into accurate apposition by suturing the muscular tissues with silk sutures, and finally, a row of catgut sutures for the peritoneal cavity. No hæmorrhage was observed after removing the elastic constrictor, and the operation was almost bloodless. The pedicle was dropped into the abdominal cavity, and after a careful cleansing of the wound it was closed in the usual manner. The wound was covered with a compress of sublimated gauze which was fastened with strips of adhesive plaster, over which a thick layer of absorbent cotton and flannel bandage was placed. The operation lasted two hours, and as the room was only moderately warm, it was not surprising that the patient showed some symptoms of collapse, from which, however, she recovered a few hours after the operation. Péan can well be called "master of forceps," and although he may carry the use of forceps to extremes, there can be no doubt that a full supply of such hæmostatic forceps as he uses will be of great use to the surgeon in performing bloody operations,

and a source of comfort in times of greatest need, when troublesome and sometimes almost uncontrollable hæmorrhage stares him in the face. Péan shows no fear of blood, as he has full confidence in his forceps, which are often allowed to remain in the wound when ligation appears difficult or impracticable.

After this operation was completed a woman was brought in who had suffered for years from excruciating pelvic distress which had failed to yield to the usual treatment. The question presented itself whether the ovaries should be removed to bring about the anticipated climax, but as Péan had failed in many instances to obtain the desired result by such a procedure he has in a number of instances resorted to vaginal hysterectomy, with better success. After the patient was under the influence of the anæsthetic the parts were disinfected, and the operation made with the patient in the exaggerated lithotomy position. The vagina was distended with two flat retractors, and the uterus drawn down with a vulsellum forceps. The circular incision, through the mucous membrane, was made with a scalpel, and the tissues around the uterus seized step by step with compression forceps, and the dissection made with scissors, fingers and blunt instruments, almost bloodlessly. At first the Douglas cul-de-sac was opened, and an attempt made to retrovert the uterus sufficiently so as to bring the fundus through this opening; this, however, failed. Next, the peritoneal cavity was opened in front of the uterus and the uterus was brought out through the opening. The round and broad ligaments were secured with forceps. After the uterus was removed, almost without the loss of a drop of blood, about twenty forceps occupied the vagina, and were allowed to remain. A few small pieces of sponge, secured with a string and dusted with iodoform, were introduced along with the forceps. The forceps are allowed to remain for twenty-four hours, when they are removed. It is

said that secondary hæmorrhage never was observed after performing vaginal hysterectomy in this manner. The operation lasted an hour.

The next day I had an opportunity to see another supravaginal hysterectomy at the same place. The tumor reached to the ensiform cartilage and displaced the viscera in an upward direction. The patient was about 40 years of age, and had become quite anæmic from repeated losses of blood. The tumor was irregular in contour and presented a nodular surface, owing to numerous small subserous myofibromata. The abdominal incision in this case extended the whole length of the linea alba, and the tumor was lifted out from the abdomen with the same instrument. Copious hæmorrhage took place from the punctures, which was promptly arrested by compression with sponges. The remaining steps of the operation were the same as the first case, and the time occupied in its completion was two hours.

Péan is an untiring worker. Endowed with a vigorous body and an active brain, he finds no pleasure in rest. His voluminous works testify to his zeal and fertility as a writer, and the clinical material they embody shows an amount of personal experience seldom acquired by a man of his age. I was informed that frequently he performs from six to seven operations during a forenoon at the Hôpital St. Louis. Perhaps one of the best evidences of the high esteem in which he is held in the hospital with which he is connected, is that his aged assistants submit humbly to his frequent and noisy scoldings, and that he is permitted to swear, and swear as only a Frenchman can, in the presence of the sisters, who evidently fail to appreciate that part of the performance, and who lose no time to do all they can by way of repair in silent prayer.

N. SENN.

LETTER FROM STRASSBURG.

Prof. E. Fischer—Spiral Growth of Organs—Apparatus for detection of Spinal Curvature—Prof. Luecke—Resection of Intestine for Gangrene—Fæcal Fistula—Ectopia of the Bladder—Stimulants in Pyæmia—Antisepsis—The Bürger Hospital—Prof. Freund—Septicæmia and Antisepsis—Hairpin Tumor—Von Recklinghausen—The Pathological Institute—Tumors of the Pancreas—Myositis Ossificans.

Dear Doctor Fenger:—Having completed my mission in Paris, I came directly to Strassburg, where I arrived April 1. My first call was on Prof. E. Fischer, who had just returned from Berlin, where he had spent five months in studying specimens in the different museums with reference to spiral growth, a subject to which he has called the attention of the profession in a lengthy monograph from his pen. Prof. Fischer, who is well and favorably known in German surgical literature, is a good example of German industry and enthusiasm. The doctrine which he advanced some time ago, that all organs during their growth, assume a spiral shape something like a cork-screw, and that the spiral curves always take a definite direction, right or left, according to their anatomical relations to the central axis, had to be demonstrated more thoroughly for his own satisfaction and for the purpose of giving this principle a practical application. To do this he obtained a leave of absence, and for five months, at considerable expense, he studied his favorite subject in the different embryological, anatomical and pathological collections in Berlin. The results of these researches have only served to confirm his views, and he has been able to show that in the fecundated ovum the

spiral growth becomes apparent after the third segmentation, and that even the protoplasm in each individual cell is arranged in a spiral manner. For more than two hours I listened patiently and interestedly to his remarks, and examined the specimens which he has utilized in illustrating his monograph. As striking illustrations of spiral growth, he calls attention to the structure of the umbilical cord, the heart, the long bones, the bladder and the nerves. Many deformities he attributes directly to an increase or diminution of normal spiral curves, as for instance scoliosis and genu valgum and varum. Professor Fischer has devoted a great deal of time to a study of ateral curvature of the spine, and has invented a most ingenious apparatus which enables him to detect a very slight degree of deviation, and thus resort to appropriate early treatment. The patient is placed upon a platform divided into two equal parts, under each of which a scale is arranged so that when the patient is placed into a perfectly erect position in front of a perpendicular staff, the weight on each side can be accurately ascertained. Asymmetry of the lower extremities is recognized as a frequent cause of scoliosis, and the deformity is at once improved, and further aggravation prevented, by supplying the shoe on the affected side with a sole of sufficient thickness to balance the length of the opposite limb. Prof. Fischer is a hard student, a conscientious worker and will not fail in making many more valuable contributions to surgical literature.

The surgical wards of the Bürger Hospital, in charge of Professor Luecke, are in a separate building, recently erected, and supplied with all modern improvements and conveniences. The average number of surgical patients is 150. Prof. Luecke, whom I had the pleasure of meeting in 1878, looks very much older, but his working capacity remains unimpaired. He showed me a number of exceedingly interesting cases, among them a resection of the in-

testine for gangrene, where twelve inches was removed in a case of strangulated hernia, the bowel sutured and returned. The resection was done sixteen days after the herniotomy, a procedure which he prefers to immediate resection, and enterorrhaphy, as the intestine is in a better condition for such a serious operation, at the same time the surgeon is in a better condition to decide how much of the bowel must be removed. In this case the wound of the second operation was nearly healed, the action from the bowels regular, appetite good, no tympanitis, all symptoms indicative of a speedy and permanent recovery. A woman about 40 years of age, was shown, upon whom a gastro-enterostomy had been performed one week ago. The dressing was removed for the first time, and the wound was found united. The case was considered favorable for a pylorotomy, but a direct examination showed that the disease had extended behind the stomach, rendering extirpation impossible, consequently Wölfler's operation was performed. For a number of days after the operation the patient was nourished exclusively by rectal alimentation; at present she was allowed to take moderate quantities of food and experienced no difficulty in digestion. The relief afforded by the operation was prompt, and has continued without interruption.

In the case of a fæcal fistula in a girl about 18 years of age, where all ordinary measures to close the abnormal passage had failed, a favorable result was obtained by opening the abdomen through the median line, separating the bowel from the abdominal wall, and suturing the bowel in the usual manner. Attention was called to the importance of opening the abdomen some distance from the artificial anus, as such a procedure affords a better opportunity to ascertain the extent and nature of the adhesions, and affords greater facilities for their separation and the prevention of fæcal extravasation during the operation. In

this case, not a single unpleasant symptom followed the operation.

With great interest I examined two cases of ectopia of the bladder. Both patients were females; one a child, the other an adult. In the child, a number of operations had succeeded in forming a perfect anterior wall, thus converting the imperfect bladder into a convenient receptacle. The artificial wall in the woman remained imperfect, which will necessitate further operative interference.

I was informed that two cases of pyæmia, where the patients came into the hospital infected, had recovered, after a long illness, under the influence of large doses of stimulants. In one case the presence of pulmonary infarcts was unmistakable, and yet complete recovery followed. These cases only prove that even in pyæmia, recovery need not be despaired of in cases where life can be prolonged until a period of limitation is reached when the specific cause loses its toxic effect on the organism, is exhausted, and is no longer in a condition to furnish the material for the progressive production of the microbes.

The antiseptic treatment in this hospital is rigidly and conscientiously followed, a circumstance which certainly must come in for a great share of the credit pertaining to the remarkable recoveries after the most serious and dangerous operations. One forenoon I devoted to a visit to the gynecological and obstetrical wards, under the care of Professor Freund. The wards are in a new building only recently occupied, and located *vis-a-vis* the Surgical Klinik. The building is a model of its kind and a credit to the German Government, which has spared no expense in making it perfect as a centre for clinical teaching. Professor Freund takes a just pride in the institution which has developed into such a magnificent hospital and school for teaching under his personal supervision, and is untiring in his efforts in pointing out its advantages and modern improvements. In the lying-in depart-

ment the antiseptic precautions are so thoroughly carried out that puerperal sepsis has never been known to originate in the wards. A small building, isolated from the main building, serves for the reception and treatment of infected patients from the city and the surrounding country, and here the student finds the only opportunity to study at the bedside and the post-mortem room the infective diseases incident to childbed.

There is certainly a great deal of truth in the statement made by the famous Robert Koch, in answer to my question relative to the nature of septicæmia, that this disease is beyond the grasp of the pathologist in Germany, as antisepsis had succeeded in almost exterminating the disease in that country. I sympathize sincerely with the pathologists, but rejoice at the results obtained by Joseph Lister and his followers in expunging from the catalogue of diseases one of the most fatal and fearful complications of the obstetrical and surgical wards. In the face of these facts who can doubt any longer the efficiency of antiseptic precautions in preventing infection? Who will dare to ridicule the honest, conscientious surgeon and obstetrician in his efforts to protect his patients against infection? Who will have the courage to recommend a pad of infective germs as a safe dressing for penetrating wounds of the abdomen? Let history, science, and the combined experiences of thousands of honest physicians and surgeons answer these questions!

Professor Freund related to me the history of a very interesting case that recently came under his observation. A patient was brought into the hospital suffering from all the symptoms of pyosalpinx. Abdominal section was performed, and a careful digital exploration appeared to confirm the diagnosis. On one side of the uterus, corresponding to one of the tubes, a hard, adherent mass was found, which was removed entire with great difficulty, on account

of firm universal adhesions, in the separation of which severe hæmorrhage was incurred. After the mass was removed the large cavity was filled with a tampon, and all bleeding arrested by compression and ligature. Section of the mass revealed in its interior a hairpin. This common instrument of destruction had evidently been used to produce abortion, had perforated the uterus, and caused the suppurative parametritis—another sad illustration of the folly of women in attempting limitation of offspring.

A number of recent laparotomies showed no temperature and were on a fair way to recovery. All abdominal operations are performed under strict antiseptic precautions, with the exclusion of the doubtful spray. I examined with interest numerous frozen sections illustrating the normal anatomy and various pathological conditions of the female pelvic organs, which were fastened upon a wire framework, according to the device of Professor Freund, and kept as wet specimens. You will recollect that Professor Winckel adopted this method of mounting in obtaining his photographic illustrations for his great atlas.

A visit to the Pathological Institute brought me face to face with one of Germany's greatest pathologists, the distinguished von Recklinghausen. I found him smoking his morning cigar, but deeply engaged in his arduous work. Previous experience satisfied me that the director of one of the best pathological museums would spare neither time nor labor to show me the most interesting specimens. I found here the largest collection of specimens illustrative of diseases of the pancreas. I was exceedingly anxious to examine the specimen of pancreatic calculi with ectasia of the common duct, but when we searched for it where it should naturally belong it could not be found, a circumstance which almost instantaneously changed the placid temper of the professor into a rage. Shelf after shelf was examined, but that speci-

men, in some unaccountable way, had disappeared. I suggested that we abandon the search, but this only stimulated him to renewed energy, and I heard from behind the cases language more forcible than elegant, until the unhappy "devil" of the museum remembered the exact *locus* of the wandering pancreas, and he brought the specimen triumphantly to the excited director, whose countenance at once assumed its wonted tranquil, peaceful aspect. The average German professor is a typical representative of system and order, and the displacement of a specimen is considered in the light of a criminal offense, and, as the learned professor said on this occasion: "So etwas darf hier nicht vorkommen."

In a short time three new specimens have been added to the pancreatic collection. One of them consisted of a solid tumor, probably malignant, in the head of the organ, with a large cyst on the peripheral side. During life only the cyst was recognized, and after an exploratory puncture a probable cyst of the pancreas was diagnosticated. Professor Luecke performed abdominal section, stitched the cyst to the wound, opened and drained it. Next day *exitus letalis*. The post-mortem examination showed that the primary disease had originated in the head of the pancreas and had involved the adjacent tissues; the cyst had been caused, undoubtedly, by progressive destruction of the secretory structures of the pancreas and obstruction of the cystic duct. The second specimen is a large cyst, removed post-mortem, where no communication exists between the cyst and the duct. The third specimen represents a primary carcinoma of the pancreas without the formation of cysts. The more I study the etiology of cysts of the pancreas, the more I become convinced that simple obstruction is inadequate to cause a cystic dilatation of the duct, as in such cases, as long as the gland remains intact, the pancreatic juice is absorbed; in other words, a retention cyst cannot be

produced as long as auto absorption remains intact. But, in cases in which the cause of the obstruction affects deleteriously the parenchyma of the organ, absorption no longer takes place, and the combined effect of obstruction and accumulation of the products of secretion from intact portions of the gland on the distal side of the obstruction, result in the formation of a retention cyst.

This museum contains three beautiful specimens of myositis ossificans. In all of them the production of new bone is most marked in the extensor muscles of the back and in the vicinity of the hip joint; in the latter location braces of new bone connect the pelvis with the femur, so that, with an intact hip joint, perfect immobilization of the thigh bone has taken place, always in a flexed position. In regard to the true pathology and etiology of this singular disease, little or nothing is known. At the meeting of the German Congress of Surgeons recently held in Berlin, Professor Helferich, of Greifswald, showed a young man suffering from this disease who had been under his observation for seven years. The disease commenced as an acute attack resembling rheumatism, followed in a short time by production of bone along the course of the affected muscles. It is more than probable that the ossifying process is limited to the connective tissue around and within the muscles, and that the muscular fibres disappear in consequence of pressure, atrophy, and interstitial absorption on the part of the new osteogenetic material.

N. SENN.

STRASSBURG AND STUTTGART.

Kœberlé; his Methods; Treatment of the Abdominal Wound—Burckhardt—Stab-wound of the Liver—Stab-wound of the Stomach—Extirpation of the Larynx—Empyema of Frontal Sinuses—Antisepsis in Stuttgart Hospitals—Tuberculosis of Bone, Joints and Lymphatics—Peritoneal Sarcoma or Tuberculosis?—Osteotomy for Genu Valgum and Varum.

Dear Dr. Fenger:—One of the most interesting men in Strassburg is Dr. Kœberlé. He is 65 years of age, and until recently lived the life of a bachelor in his comfortable and luxuriously furnished house opposite the Allerheiligen Hospital. His young and beautiful wife has done her share towards his rejuvenation, and the climax of happiness culminated in the Kœberlé family on the appearance of an heir to the fame and fortune of the distinguished laparotomist. For nearly half a century this faithful worker knew no pleasure outside of his profession, laboring faithfully in the interest of science and for the welfare of his fellow men, and is therefore entitled to the sunshine and happiness incident to a happy home, surrounded by his accomplished loving wife, and the innocent smiles of the prattling babe, certainly the most appropriate rewards this side of eternal bliss for a well-spent life. Dr. Kœberlé is a genuine Frenchman, who only makes use of his imperfect knowledge of the German language where no other alternative remains. I met with a very kind reception, and spent a whole afternoon in his company at his house and in the Allerheiligen Hospital. He answered my numerous questions willingly and fully, thus affording me a full insight into his methods of operating.

From what I heard and read I am satisfied that he deserves to be called the inventor of the hæmostatic forceps, which in text-books and catalogues are credited to his former intimate friend and now bitter enemy—Péan. Kœberlé informed me that he had not used a ligature in his practice for the last twenty years. Although he recognizes the importance of antiseptic precautions, he relies on thorough cleanliness, and only uses a solution of carbolic acid for his instruments. That he is a believer in germs is evident from his practice, as he disinfects his hæmostatic forceps in the flame of an alcoholic lamp before every operation. The hands are thoroughly cleansed with warm water and soap, and subsequently washed in a 4 per cent. solution of carbolic acid. He never uses a sponge, but relies entirely on pieces of dry cloth rendered aseptic by boiling. The operating room is heated only to a comfortable temperature, as he believes the danger attributed to loss of heat during laparotomy has been greatly over-rated. For suturing material he uses ordinary Chinese silk, which before the operation is immersed in a 4 per cent. solution of carbolic acid. In tying the pedicle of an ovarian tumor he makes transfixion with an ordinary dissecting forceps, which is used in passing the double ligature. In hysterectomy he resorts to two of his *serre-nœuds* in controlling hæmorrhage; a tunnel is made through the centre of the pedicle with a blunt instrument, and each side is compressed with an instrument, which are allowed to remain in the wound. Great stress is laid upon the importance of not using these instruments as retaining measures; they must remain loose in the wound, as otherwise the wire would cut through prematurely. He never resorts to protection of the abdominal contents, when protrusion has taken place, by compresses, cloths, etc., as he claims that microbes in the cloth might lodge upon the organ thus brought in contact, and produce infection.

You will be interested to hear how Kœberlé treats the abdominal wound; he never includes the peritoneum in the sutures. The sutures are passed down to but not through the peritoneum; nor do they embrace the skin. The silk sutures are not cut short; the ends of two or more are twisted into a string, and are brought out of the wound, serving the purpose of a drain. By disposing of the sutures in this manner he claims that he avoids the formation of parietal abscesses. The skin is brought together with pin sutures. The whole dressing is composed of a dry cloth compress and linen bandage. The superficial sutures are removed after 24 to 48 hours, and further coaptation is secured by means of his favorite dry suture, made of strings of linen thread, which are twisted into a string on one side, while the other looks like a fan, which is fastened to the skin with collodion diluted with alcohol and ether. Opposite points are tied together, and, as I had an opportunity to observe in two cases, served an admirable purpose in keeping the margins of the wound in accurate contact. The deep sutures usually come away spontaneously after eight days. He has never observed a ventral hernia after abdominal section in wounds treated by his method.

Kœberlé's supply of instruments is exceedingly limited, and after an inspection of his whole supply I could not but admire the man who can cope successfully with the most difficult cases with so few instruments. Two small cases, containing perhaps two dozen of his favorite forceps, a few scalpels, scissors, hooks, anatomical forceps, and the indispensable *serre-nœuds*, constituted the whole *armamentarium chirurgicum*. Although I should not be willing to adopt all of his precepts, I am willing to confess that during my interview with him I had seen and heard many things which afforded food for serious thought. Kœberlé is an original thinker, a fearless operator, and must be ranked foremost among

the surgeons who are the recognized pioneers of abdominal surgery.

During my trip I have been frequently impressed with the fact that some of the best surgical work is done outside of university towns. Men whose names seldom if ever appear in surgical literature are doing excellent work, and it is to be regretted that the results of their observation and experience often fails to go on record, and thus science is deprived of a useful source of information. A teacher who has to devote several hours a day to his classes cannot devote so much time to his patients or for reading and scientific research as a surgeon who only does hospital work and private practice. Some of the best work I have seen has been by men who have charge of 100 to 120 surgical patients in some provincial hospital. Most of these surgeons have at the same time a large and often remunerative private practice. For instance, Medicinalrath Burckhardt, of Stuttgart, controls nearly all of the surgery in that rich and prosperous city and vicinity, and at the same time he has charge of the surgical wards in both hospitals. He is one of the busiest men on the Continent, and knows how to make use of his advantages and opportunities. The position of influence and eminence which he now occupies has been acquired in a remarkably short time, as he is not more than 40 years of age. He is a thorough scholar, and familiar with current surgical literature. His father is an old and respected physician in Wildbad. The material which is at the disposal of Dr. Burckhardt is immense, and represents every possible variety of injuries and surgical diseases, as I had an excellent opportunity to verify during the two days I spent with him in his hospitals. He is a very careful but bold operator, and a splendid diagnostician.

About a year ago a man who had been stabbed in the abdomen was brought into the hospital. The location and direction of the penetrating wound in-

dicated that the liver or stomach was injured, and as the patient presented all the symptoms of acute anæmia it was evident that some large vessel had been injured. Percussion proved that the peritoneal cavity contained a large amount of blood. The patient was nearly pulseless, and it was apparent that unless hæmorrhage could be corrected death would soon follow. Abdominal section was performed, and as soon as the abdomen was opened it was found that free bleeding continued from a large wound in the left lobe of the liver. A rapid exploration showed that no other serious visceral wounds were present, and he turned his attention to arrest the flow of venous blood. The usual hæmostatic measures for arresting hæmorrhage were out of the question, and it was finally decided to resort to the iodoform gauze tampon. The entire track of the wound was firmly packed with several pieces of iodoform gauze and the end of the tampon was brought out of the abdominal wound to serve as a drain. The abdominal cavity was cleansed as thoroughly as could be done under the urgent circumstances, and the wound closed, with the exception of an opening for the capillary drain. Against all expectations the patient soon rallied from the collapsed condition, and recovered permanently without any further untoward symptoms. For a long time a fistulous communication existed with the visceral wound. The canal was dilated with laminaria tents and a piece of iodoform gauze removed from the depth of the wound. After this the tract closed.¹ In my address on "The Present Status of Abdominal Surgery," I suggested a somewhat similar treatment for visceral wounds of the liver, and the result of direct treatment of such wounds by abdominal section is certainly well illustrated by this case, and should stimulate others to adopt the same treatment in a class of cases which

¹ This case was described in *THE JOURNAL*, Vol. viii, p. 323.

heretofore, on the expectant plan of treatment, has furnished a mortality of nearly 100 per cent.

In the Katharinen Hospital I was shown an exceedingly interesting case in which abdominal section proved a life-saving measure for another class of visceral injury. A circus rider, 30 years of age, had partaken freely of food and beer, and soon after received a stab wound of the abdomen. He was at once conveyed to the hospital, where he arrived in a dying condition. It was ascertained that the abdominal cavity contained a large amount of fluid. The opinion prevailed that the patient would die, and his ante-mortem statement concerning the quarrel was taken by an officer of the law. The external wound was located to the left of the rectus abdominis muscle, and about two fingers' breadth below the costal arch. From the location of the wound and its probable course it was surmised that the dilated stomach had been punctured. With the consent of the patient the abdomen was opened from the wound in a downward direction to the extent of six inches. The peritoneal cavity was filled with blood-clots, which were removed with the hand and sponges. As soon as the stomach was brought into view a wound large enough to admit the tip of the index finger was found near the large curvature. Hæmorrhage was freely taking place and required several catgut ligatures for its arrest. The wound was closed with two rows of sutures. Cleansing of the abdominal cavity was only imperfectly done, as it was feared that in the collapsed condition of the patient any further loss of time might prove fatal, and the local and general conditions appeared to preclude any possibility of ultimate recovery. To the astonishment of all concerned, reaction commenced soon after the operation was completed, and on the third day the patient insisted on getting out of bed, as he had no pain or discomfort in the abdomen. It is now sixteen days since the injury was

inflicted, and the abdominal wound is closed, the appetite is good, action of bowels normal, no tympanitis, no pain. As the patient insisted on leaving the hospital to-day, permission was granted, however only after explaining to him that any ill consequences following such imprudence would rest exclusively upon the responsibility of the patient himself. To all of these conditions he consented freely, and left the hospital a happy man and in the firm hope that in a few days more he would be in a condition to entertain the circus-going citizens of Stuttgart.

I had an opportunity to examine two patients who had recently undergone extirpation of the larynx. In both cases the larynx was the primary seat of carcinoma, and as in neither case metastatic deposits in adjacent lymphatic glands had taken place, they were both considered as favorable cases for the operation. One of the patients was a man 65 years of age, who was attacked with pneumonia on the second day after the operation, but is now recovering from the complication. The second case was a woman of about the same age, who recovered from the operation without any untoward symptoms, but where the introduction of food without the œsophageal tube has proved very difficult, and where, in order to facilitate this process, a second operation was performed a day or two ago having in view the closure of the space between the open trachea and the anterior wall of the œsophagus. Burckhardt prefers Hahn's sponge canula to Trendelenburg's instrument in all cases where the trachea requires plugging during an operation. In two cases of empyæma of the frontal sinus I saw Burckhardt perform catheterization from nasal cavity with a delicate curved tube through which medicated solutions are injected.

In both hospitals strict antiseptic precautions are observed. For disinfection of hands spirits of turpentine is used. Instruments are immersed in a five per cent solution of carbolic acid. As an antiseptic

solution corrosive sublimate is preferred. Pads of antiseptic gauze and cushions of sublimated wood-wool are used in dressing wounds. Most of the operations are performed in the Katherinen Hospital, where the operating room is located in a pavilion which is completely isolated from the main building. Most of the surgical patients here live in barracks.

Tuberculosis of bone, joints and lymphatic glands, as well as localized tubercular lesions in other accessible organs, are submitted to energetic use of the knife and sharp spoon, and it is claimed that since the practice of Bardenheuer, of Cologne, is imitated, the results have become more satisfactory.

Among the more important operations that I witnessed here are the following: A woman 30 years of age, who was delivered during the month of June last year, had suffered during the last months of her pregnancy from pelvic pains, which at times were quite severe. She has not been well since. Menstruation has ceased entirely. She is somewhat emaciated, and at times the thermometer indicates a rise in temperature. A physical examination reveals the existence of hard, irregular masses in the regions of both ovaries and broad ligaments. It was impossible to make a positive differential diagnosis between pyosalpinx, tuberculosis and sarcoma, although the last condition was suspected. A diagnostical laparotomy was made to determine the character of the lesion and to proceed at once to operative measures, should the local conditions warrant such a course. As soon as the abdominal cavity was opened the omentum presented itself in the wound, studded with small tumors the size of a millet-seed to that of a pea, and the parietal peritoneum, when inspected, showed the same appearances. No fluid in the peritoneal cavity. The uterus appeared fixed by the masses on each side. The diagnosis made was sarcoma, and the exploratory incision was closed. Although I have implicit confidence in the correctness

of the diagnosis *post incisionem* of Burckhardt, I could not resist the temptation to view the local product as a tubercular lesion, a suspicion which I based upon the history of the case, the symmetrical appearances of the masses in the pelvis on both sides, commencing in the region of the Fallopian tubes, and the extensive diffusion of the process along the peritoneal surfaces, as well as occasional rises in temperature. One of the characteristic conditions of peritoneal tuberculosis—localized ascites, however, was not present; but, as far as my observation goes, ascites is as much a symptom of peritoneal sarcoma as of peritoneal tuberculosis, and is not necessarily present in either of these conditions.

At the last meeting of the German Congress of Surgeons numerous cases of peritoneal tuberculosis were reported as cured by simple exploratory incisions, and if my suspicions in this case should prove correct, and the same favorable termination should follow, my friend Dr. Burckhardt will be the first to acknowledge his mistake. In this connection I wish to express my doubts in regard to the correctness of the diagnosis in the many cases of peritoneal tuberculosis which have been reported as cured by such a simple measure as an exploratory incision. I have no doubt in my own mind that many of these cases were not tuberculosis, but localized, non-specific, simple peritonitis, from which the patients would have recovered without incision, by simple rest. I am strongly in favor of treating localized intra-peritoneal tuberculosis by surgical measures, but in all such cases I should not be content until I had resorted to some measures directed toward the local condition, and having in view the complete or partial removal of the primary focus, and sterilization of remaining depots by the application of appropriate anti bacillary agents.

In performing osteotomy for genu valgum and genu varum, Burckhardt does not perform the operation

subcutaneously, but resorts to a free incision down to the bone, incises and reflects the periosteum at the point of section, and cuts the bone with a chisel sufficiently so that the balance can be readily fractured. Before Esmarch's constrictor is removed all visible vessels which have been divided are tied, a small drain introduced and the wound sutured, an antiseptic gauze dressing applied, and the limb bandaged upon a posterior tin splint. The first dressing is changed after twenty-four hours and the limb redressed in a similar manner. The second dressing is removed in a week, when immobilization is secured by the application of a plaster-of-Paris bandage, or by weight and pulley and lateral support. For one who is as familiar with the antiseptic treatment of wounds as Dr. Burckhardt it may be perfectly safe to transform a subcutaneous into an open fracture, but for others less skilful or conscientious, the subcutaneous section of the bone deserves preference, inasmuch as experience has shown that, with ordinary care, injury to important organs can be prevented. N. SENN.

HEIDELBERG AND WUERTZBURG.

Cicatricial Indications of Scientific Attainments; Their Scientific Aspect—Heidelberg Hospital—Carcinoma of Head of Pancreas—Carcinoma of Face—Riedinger's Method of Resecting the Knee—Schoenborn—Removable Plaster Splint—Sarcoma of Base of Skull—Iodoform—Leube and Naunyn.

I left Stuttgart perfectly satisfied with the principal object of my visit, and arrived in the famous University town of Heidelberg April 6. I reached Heidelberg at the wrong time, as Easter vacation had commenced and Prof. Czerny had improved this opportunity for obtaining a much-needed rest by a trip to the French metropolis. I was very anxious to meet Czerny, not only to become personally acquainted with him and to see him operate, but also for the purpose of discussing with him certain topics in intestinal surgery which have engaged my attention for some time, and upon which I knew he could impart more information than any other surgeon.

A look at the straggling students that remained during vacation must satisfy even the most superficial observer that the four years prescribed for study are not spent exclusively in the lecture-rooms, hospitals and laboratories, or burning the midnight oil in boarding houses, as, almost without exception, they present a florid, healthy appearance not at all suggestive of hard mental work. Every student wears his mark of honor, from one to twenty-four scars indicative of the number of times he has been marked by his opponent in the defense of a real or imaginary question of honor. As a rule, the left side of the face is disfigured; but when this has been converted into a checker-board incapable of receiving further impressions, it seems it becomes necessary to attack

the other side, in order to increase the surface for recording the number of times he had met his man. These scars are a study in themselves. In size they vary from a mere scratch to a complete division of a cheek. You can see recent scars, with an exuberance of granulation tissue and a high degree of vascularization, and the linear depressed scars of old veterans upon the field of honor, which have left the face in all stages of contraction and distortion. Many of the faces, as far as looks are concerned, to the sight of an ordinary individual are maimed for life, but among students a man appears to be appreciated by the number of scars he can show. These passports prove for him at all times and at all places that he has been a student, and as such they possess an intrinsic value. One of the assistants in the hospital had so many marks that for the sake of curiosity I made repeated attempts to count them, but had to abandon the task as insurmountable as the counting of the stars of the firmament.

From a scientific standpoint these scars present also interesting objects of study. It is evident that the duels are not fought in an aseptic atmosphere, or that the swords have not been rendered properly aseptic, as all scars that I have seen seem to prove, from their size and ugliness, that primary union is the exception and not the rule. I have come to the conclusion that the recipient of a wound under such circumstances is not anxious to obtain union by a minimal cicatrix, as such a thing might become invisible and he would have nothing to show externally in after life that he belonged to one of the learned professions. Calculate, if you can, the time that is required to become the possessor of two dozen of scars. Let us imagine that the assistant with countless scars had fifty genuine scars—and I am quite certain that this number is rather below than above the real figure—if he devoted to the acquisition of each wound and the subsequent healing process only

one week, he spent one year out of the four prescribed by law in acquiring a scientific face. That such students never wear the blue ribbon is well known, and it is safe to assert that the same individual with so many marks spent at least another year behind his beer-mug. The much-marked men seldom come to the surface in after life. During my travels on the Continent I have scrutinized carefully the faces of prominent surgeons, and while some of them can show one or two, seldom more, decent scars, most of them have preserved the integrity of their facial integument during their student days, and devoted their time to nobler things. It is a disgrace to the German government that the foolish practice of duelling, although forbidden by law, is still tolerated. If no other measure for the total suppression of this relic of the barbarous age can be enforced, I would suggest that double-barrelled shotguns loaded with a handful of buckshot be introduced as weapons, and I can safely predict that duelling in Germany will soon have only a historical interest.

Dr. Bessel-Hagen, Privat-docent für Chirurgie, and during Czerny's absence his representative, very kindly showed me through the surgical wards and explained the most interesting cases. The surgical department of the hospital comprises four separate buildings, supplied with all modern improvements, and having a capacity for 200 beds. The operating amphitheatre is a model of its kind, and affords ample room for 200 students. Antiseptic precautions are carried out with scrupulous care. Solutions of corrosive sublimate are used for irrigation; gauze compresses and sublimated wood-wool for dressing wounds. Dressings are not removed for twelve days or more unless positive indications for an earlier dressing arise. That antiseptic surgery is thoroughly practised in this hospital becomes evident from an inspection of the temperature tables, which show no material rise in all the cases which had recently been

operated upon; and among them were many serious operations.

A case of primary carcinoma of the head of the pancreas had been subjected to abdominal section for diagnostic purposes, but when the true nature of the lesion became evident by direct palpation, the wound was closed, as the disease had extended to adjacent organs. The most prominent symptom in this case was profuse salivation.

Dr. Steinthal, first assistant, performed a very creditable operation on a woman 60 years of age suffering from a carcinoma of the face, involving the parotid region and external ear. During the dissection it became necessary to extirpate the entire parotid gland. Most of the branches of the facial nerve were dissected out of the gland and left intact. The whole of the external ear was removed. A number of the submaxillary glands which were found slightly enlarged were also removed. The immense defect was covered by two flaps, one from the scalp and another from the side of the neck. At a point corresponding to the external meatus a perforation was made in the flap. Dr. Hetzel, another assistant, made an amputation of the thigh in a boy suffering from tuberculosis of the knee-joint, and where a previous arthrectomy had been followed by a return of the disease, which involved the articular ends of the bones and surrounding soft parts to such an extent that this alternative furnished the only possible means to meet an *indicatio vitalis*. Antero-posterior cutaneous flaps were made, the end of the bone covered with a periosteal flap, all visible vessels tied before removing the constrictor, and after all hæmorrhage had been arrested, the muscles were sutured separately with catgut and the cutaneous flaps with silk, with the exception of two openings for bone drains. Gauze compress was placed next the wound, and a large wood-wool cushion as a covering for the wound.

From Heidelberg I hastened to Würzburg, where

I was more fortunate in finding the men I wished to meet, Professors Schoenborn and Riedinger, both teachers of surgery in the University. In the evening Prof. Riedinger called at the hotel and invited me to meet him at his private hospital next morning, to witness an excision of the knee-joint after his method.

The patient was a boy about 6 years of age, suffering from tuberculosis of the knee-joint. Evidently the disease was in its earlier stages, as the joint was only moderately swollen and did not present that sense of semi-fluctuation as is the case in advanced fungus inflammation of this joint, at the same time the articular surfaces were not displaced. The operation was performed as follows: The whole limb was thoroughly washed with warm water and soap and subsequently with a 1-1000 solution of sublimate. Esmarch's constrictor was applied about the upper third of the thigh, and a *longitudinal* incision made over the centres of the patella, dividing the tissues with one stroke down to the bone, and passing through the lower portion of the quadriceps and the tendon of the patella. At a corresponding point the patella was sawn through in the same direction so that the divided patella and the soft parts presented two symmetrical halves which when separated exposed the joint fully to inspection, both by sight and touch. Without much difficulty the lateral halves were so widely separated that the lower end of the femur was brought fully into the wound and the articular end was removed with a saw, the line of section being below the epiphyseal cartilage. The tibial end was treated in the same manner. At least two osseous foci were exposed by the bone sections, and each was carefully scraped out with a sharp Volkmann's spoon. This long anterior incision fully exposes the upper recesses of the synovial sac, and renders the extirpation of the entire capsule an easy matter. After the extirpation of the capsule

with curved scissors the whole surface was irrigated with a sublimate solution and carefully dried, and the parts restored to their normal relationship, and the two halves of the patella tacked together by applying two catgut sutures passed through the tendinous covering and periosteum, but not thro' the bone.

The only provision for drainage was a rubber drain introduced into the upper angle of the wound. As the limb is kept in nearly perpendicular position for at least 24 hours, the drain occupies the most dependent position of the wound, and answers all requirements. The remainder of the wound is closed with silk sutures. A copious gauze dressing, embracing nearly the entire limb, is applied, over which a thick layer of absorbent cotton and equable compression by bandaging limb from toes to groin. A posterior hollow splint, with foot-board, serves to immobilize the limb. The constrictor is not removed until the whole dressing is applied. The first dressing is not changed for a week, when the drain is usually found outside of the wound. As the wound at this time is usually firmly united, the sutures are removed and the limb put in a plaster-of-Paris splint. Anatomically this operation presents a number of advantages. I have always observed after making the transverse incision, that on account of muscular traction of the extensors of the leg, there is not only a tendency for separation of the fragments of the patella, but a constant traction always results in the formation of a wide and often ugly cicatrix in the skin; conditions which are avoided by the anterior longitudinal incision. When the articular ends of the bones are brought fully into such a wound by forcibly flexing the leg upon the thigh, the entire synovial sac is brought into full view and rendered accessible to removal with scissors. The tissues divided in the direction of the axis of the limb, serve a most useful purpose in securing immobilization during the process of repair.

As Professor Reidinger states, this method of operation should always be resorted to in making an exploratory examination of the knee-joint, as in case further operative measures appear superfluous, the parts can be replaced and kept in contact by simple measures, and after the reparative process is complete the joint is anatomically in the same perfect condition as before the operation. Professor Riedinger is firmly convinced of the utility and advantages of this operation over the ordinary method and resorts to it in all cases where arthrectomy or excision is deemed necessary, and is perfectly satisfied with the results obtained in a large number of cases.

Hofrath Professor Schoenborn, well and favorably known as professor of surgery in the University of Königsberg, has only recently succeeded the late lamented Prof. Herman Maas. Prof. Schoenborn is only 47 years of age, and has left a splendid position and one of the best arranged surgical clinics in Germany, for a larger but more difficult field of labor. The Julius Hospital in Würzburg is an immense institution, with a large material for clinical instruction, but the surgical wards are miserable, and the Government is not disposed to make any changes for the better. The operating room is small and badly supplied with light. If I remind you that Würzburg has 1100 medical students, it is not strange that the new professor of surgery is sadly conscious of the defects of his clinic. At the time I visited Schoenborn I found him happy in the presence of Prof. Naunyn, one of his former colleagues in Königsberg, who had come with his wife to pay his friend a visit.

I was shown all cases of interest in the surgical wards and for the benefit of visitors, a plaster-of-Paris splint was made, which has been used for such a long time in the Königsberg klinik, in the treatment of fractures, and for immobilizing joints. It is the well-known anterior or posterior splint made of fibres of hemp impregnated with plaster-of-Paris paste, and

accurately moulded to the parts until the plaster has set. It makes an excellent removable permanent splint, and certainly is much preferable to the most ingenious and costly ready-made splints. Another specialty of Schoenborn's is the removable water-glass splint, which is much more durable and lighter than circular plaster-of-Paris splints, and is used extensively in the treatment of spondylitis and inflamed joints.

The same day he removed a sarcomatous tumor from the base of the skull, through the mouth, after first dividing the soft palate. As a preliminary measure the trachea was opened and plugged with a Trendelenburg's canula. After the removal of this tumor the wound in the soft palate was closed with sutures. The tracheotomy pipe was allowed to remain 24 hours for fear that the wound secretions from the pharynx might enter the trachea and produce a pneumonia.

Schoenborn is no longer a believer in the antiseptic properties of iodoform, as he has seen the staphylococcus aureus grown luxuriantly upon a culture containing this substance. He attributes to it, however, other valuable properties, which act salutary in the process of wound healing, the most important one being that it keeps the wound dry, and in doing so acts indirectly as an antiseptic.

In the evening I met Professor Leube and Professor Naunyn at Professor Schoenborn's house, where dinner was served, and a variety of wines sampled. German professors, when behind the official curtain, appear to enjoy life as well as the average man outside of the medical profession. If Professor Leube is so liberal in diet with his patients as he was with himself that evening, he would experience some difficulty in emptying their stomachs, even seven hours after mealtime. The old saying, that "preaching is easier than practice," was verified on this occasion, and we left the house of our pleasant host and hostess,

feeling at peace with ourselves and the entire outer world, and conscious that we had spent a most interesting and pleasant evening. In my next letter I expect to give you a description of how to cure surgical tuberculosis à la Koenig.

N. SENN.

FROM GOETTINGEN.

Koenig and Rosenbach—Goettingen Polyclinic—Empyema—Amputation of Thigh for Osteomyelitis—Surgical Tuberculosis—Tuberculosis of Ribs; of Knee; of Elbow—Resection of Hip—Koenig's Success with Tuberculosis—Iodoform—Carcinoma of the Rectum—The Germ of Erysipelatoid of the Fingers—Merkel.

My Dear Dr. Fenger:—In my last letter I promised to relate to you this time the results of my observations in Goettingen. You are aware that in our weekly colloquium at your house after my lectures Friday evenings, we have mentioned the names of Koenig and Rosenbach perhaps more frequently than the names of any other two surgeons. This was not accidental by any means, as Koenig occupies by common consent a foremost position in the list of the most prominent surgeons of Germany, a distinction he well deserves as the author of the best text-book on surgery, as a clear and impressive teacher, as an accurate clinical observer, as a bold and successful operator, and last, but not least, as a perfect type of a gentleman; while the name of Rosenbach is intimately associated with the scientific part of surgery, more especially the etiology of suppuration, the nature of osteomyelitis and the microbic origin of tetanus. Ogston and Rosenbach, who have both distinguished themselves by their investigations concerning the influence of pus microbes in the causation of suppuration, resemble each other very closely in many respects. Both are about the same age, both are hard and enthusiastic workers, and both are extremely modest men. There is perhaps not a second medical school in the world where the teachers of surgery work more harmoniously and efficiently than in Goettingen. Koenig, still active

and energetic, perfectly familiar with surgical literature and with an enormous clinical experience, teaches practical surgery in such a manner that students become fascinated in the subject and perfectly grounded in this part of their professional study, while Rosenbach, who looks at everything from a scientific standpoint, stimulates students by his own example and teaching to follow him through the most profound and difficult topics in surgical pathology. A student who graduates from this university should be a good surgeon, and if this is not the case he has certainly not made the best of his opportunities. Soon after my arrival in Goettingen Prof. Rosenbach called on me at the hotel, and after a pleasant chat we called on Prof. Koenig at his own house. We found him in his study dressed in a hunting jacket, surrounded by books, pamphlets and journals. Behind his desk I noticed an extensive collection of smoking pipes systematically arranged on a rack. The collection embraced large pipes and small pipes, pipes with short stems and pipes with long stems, meerschaum pipes and porcelain pipes, and each specimen presented evidences that this array of pipes was not intended for ornamental purposes, but for comfort and enjoyment during the long hours devoted to literary study and work. Prof. Koenig is now 57 years of age, in vigorous health both mentally and physically. The tooth of time has claimed the hair on the top of his head, but otherwise has produced no visible effects. He is a little above average height, compactly built, with a well-shaped head and intelligent face, which under all conditions and under all circumstances is expressive of great determination. He is a great hunter, and when he feels himself worn out and tired he finds healthful recreation on his hunting grounds in following the hare or the nobler game in the mountains. I found him a most genial gentleman, always anxious to learn himself when brought in contact with others, and

ever willing to impart knowledge to all who came to him for this purpose. I remained three days in Goettingen, and it would be difficult to imagine a place where I could have employed my time in a more interesting and profitable manner. The General Hospital is an old building, but the surgical wards are comfortable and afford room for 120 patients. As the city is small, cases of accident are few, but the wards are filled with patients suffering from all kinds of tubercular affections, tumors and deformities. The operating room is small but fully equipped with all modern improvements for the antiseptic treatment of wounds. The supply of instruments in this klinik is characteristic. Prof. Koenig makes it a rule to perform operations with few and very simple instruments. An examination of the drawers containing the instruments reminded me of a carpenter's shop, as they contain a good assortment of carpenter's chisels and mallets, common drills for perforating bone, ordinary large scissors for cutting gauze and bandages, small saws and large saws, and large scissors for cutting bone which are used in the vineyards for pruning purposes; spring forceps with sharp teeth is used in preference to other forms of hæmostatic forceps; sharp spoons, from the smallest size to near as large as the palm of the hand, are present in large numbers, and suggest the frequency with which tubercular lesions are submitted to operative measures; most of the larger spoons are fenestrated. Corrosive sublimate is used for irrigation, and sublimated gauze for dressing.

Professor Rosenbach has charge of the polyclinic where every forenoon a large material is presented and where numerous minor operations are performed and proper material for the hospital selected. The result of my observations have satisfied me that these polyclinics are not sufficiently frequented by the students. The average medical student has an intrinsic desire to witness capital operations, and does not

take sufficient interest in minor cases. When we recollect that only a fractional number of the thousands of medical students really become surgeons, but that all will have to depend in their future practice for their daily bread on the treatment of small, to them now unimportant things, it becomes evident that a grave mistake is committed in not making the attendance of polyclinics compulsory and a part of the curriculum of study. Teachers of surgery, as a rule, are only happy when they can present to their classes interesting, rare cases, or perform capital operations, and often deem it beneath their dignity to consume an occasional hour in the discussion of a contusion, a furuncle, a panaritium, a wart, or some other insignificant topic that nevertheless may affect the comfort and happiness of patients who will seek not the distinguished surgeons of metropolitan cities for relief, but who will apply for treatment to their family physicians. Many distinguished operators, who perform the most difficult and critical operations in a perfect and blameless manner, have been known to treat unimportant cases badly. The clinical teacher who complains of a lack of material is always hunting up big cases, and is only contented when he finds a case of stone, an abscess of the brain or lungs, an aneurism of some large artery, or some other pathological condition which will necessitate a brilliant operation, which perhaps not one of his students will ever be called upon to perform.

Men like Rosenbach can make a polyclinic what it should be—a stepping-stone, a preparatory course to the regular surgical clinic. During one forenoon a lad was brought into the polyclinic suffering from great dyspnoea, with a history that he had been ill for several weeks. He had been treated for pleuropneumonia, and as resolution did not set in at the right time, different counter-irritants were applied successively without producing the desired effect. A physical examination of the chest revealed the exist-

ence of a copious effusion into the left side of the chest, which dislocated the heart so that the apex beat could be distinctly seen under the nipple on the right side. The diagnosis of empyema was made without resorting to an exploratory puncture, from the history of the case and signs and symptoms which were presented at the time. As further loss of time was considered dangerous, the radical operation was performed at once by Prof. Rosenbach. Chloroform was administered and about an inch of the fifth rib in the axillary line resected subperiosteally, the pleura incised and the cavity drained. At least two quarts of pus escaped. No irrigation; a copious dry sublimated gauze dressing.

During the same forenoon, in the absence of Prof. Koenig, an amputation was made by Dr. Mueller, first assistant of the surgical clinic. As this case is of great interest from a clinical and pathological standpoint, I will give it somewhat in detail. The patient was a man about 35 years of age who, without any apparent cause, was attacked four weeks ago with acute osteo-myelitis of the tibia. As soon as he was brought into the hospital, about a week after the commencement of the attack, Prof. Koenig chiseled the entire shaft open, and found that the disease had involved the ankle joint, which was opened and drained at the same time. The knee-joint was greatly swollen, and, as no direct communication could be traced between it and the suppurating medullary canal, it was explored and, as pus was found, it was incised and drained. As this extensive operation did not succeed in reducing the temperature or otherwise improving the general condition of the patient, amputation was advised as the only means to fulfil an *indicatio vitalis*. The operation was rendered nearly bloodless by elevation of limb and circular elastic constriction of upper portion of thigh. Antero-posterior cutaneous flaps were made, and the cut surface of the bone, covered with a cylindrical

periosteal flap. One deep catgut suture was introduced to prevent muscular retraction. A large gauze drain was introduced transversely in the wound, over which the skin flaps were fastened with only two sutures. Accurate suturing of wounds is considered as unnecessary, and often as injurious, in this clinic. It is claimed that when only few sutures are used better drainage is secured, and the wound heals as kindly and with as good a cicatrix as after the most careful suturing. Unless contraindications arise the first dressing is allowed to remain for a week, when the drain is removed, after which the wound heals rapidly by granulation. The thick gauze compress is covered with wax paper as an impermeable covering. Before each operation the blades of the instruments are thoroughly wiped with an aseptic cloth, and their handles washed with a 4 per cent. solution of carbolic acid.

Professor Koenig spent a whole forenoon in showing the most interesting cases of surgical tuberculosis and in describing the different affections and explaining their treatment. A number of cases of tuberculosis of the ribs were shown, among them one where nearly an entire rib had been removed. When tuberculosis selects a rib, and this is rather a frequent point of localization, it appears usually as a central lesion primarily extending by continuity along the central cancellated tissue and towards one or both surfaces of the ribs, where the periosteum is destroyed and the disease extends to the contiguous soft tissues, giving rise to diffuse abscess in the external wall of the chest, where it extends in a superficial direction, and to the formation of peri-pleuritic abscess, when the process travels in the direction of the pleura. If such abscess have opened spontaneously or have been incised extensive and sinuous fistulous tracts are formed, which frequently renders the detection of diseased bone, by probing, difficult or impossible. Treatment by simple scraping sel-

dom leads to a permanent cure, as it is almost impossible to reach all of the diseased tissue with a spoon. The only treatment which can be relied upon is to expose the rib freely by an incision and to follow the disease until healthy bone is found and then to excise the entire thickness of the rib. Abscess cavities and fistulous tracts must be laid open freely and thoroughly scraped. A case was shown where the fourth rib in a young woman was the seat of the disease, and where numerous fistulous tracts lead underneath the mamma where, in order to expose the diseased rib freely, the entire breast was loosened from its attachments to the chest and reflected; after the removal of the diseased tissues it was replaced and fixed with sutures. The case is now progressing favorably.

An exceedingly interesting pathological condition in tubercular joints was described and illustrated by specimens and drawings on the blackboard. It related to cases in which the tubercular process is primarily located near an articular cartilage, and where at a corresponding point in the joint a plastic exudation takes place, and which, after it has become fully organized, protects the remaining portion of the joint against infection, as for an indefinite period of time and perhaps permanently this plastic wall limits the extension of the disease. It is a spontaneous effort towards retardation of the process, and may even result in a permanent cure.

In children suffering from tuberculosis of the knee-joint Koenig resorts to arthrectomy and careful removal of tubercular foci from the articular extremities with the sharp spoon. In adults he prefers typical excision. He showed two female patients, aged respectively 63 and 65 years, to prove that old age is no contraindication to excision of tubercular joints. Both patients were suffering at the same time from pulmonary tuberculosis. One of them had undergone excision of a tubercular knee-joint five weeks

previously, and the wound had nearly healed under two dressings without suppuration, at the same time the general health had materially improved. The second case was one of tuberculosis of elbow-joint, followed by the formation of an immense articular abscess in a greatly emaciated phthisical woman, where the object of the operation was more for alleviation than cure, but where, against all expectations, the wound healed in a remarkably short time without the formation of a drop of pus. Although in this case the general condition did not improve, the increased comfort has more than compensated the patient for the risk she assumed. It is difficult to conceive of anything more satisfactory than the prompt healing of such immense wounds under such unfavorable local and general conditions. I doubt if any one but Koenig can show such results. After excision of the elbow-joint he does not resort to passive motion until five weeks after the operation, when the forearm is flexed at right angles with the arm, and in this position is immobilized for another week or two, after which time regular passive motion is made.

In excising the hip-joint he makes a long straight incision over the centre of the greater trochanter down to the bone; after the joint has been reached the upper rim of the acetabulum is always removed with a chisel, so as to afford better access to the joint. With a chisel the trochanter is divided into three parts in the line of the axis of the bone; the central portion is the thickest, and its upper portion is cut off so as to secure direct drainage of the joint after the lateral portions have been replaced and retained with a few sutures. Through such an opening the head and neck of the bone can be readily removed, and the acetabulum becomes accessible for operative procedure should the local conditions warrant such a step, while through the defect in the great trochanter efficient drainage could be estab-

lished. The whole after-treatment consists in rest in bed with extension by weight and pulley in abducted position for five weeks. After this time the patient is allowed to walk on crutches and extension is applied only during night for at least a year.

Since I have seen the numerous patients in Koenig's klinik, where a few weeks after the operations the wounds were either entirely healed or only a superficial granulation surface remained, I have become convinced that the numerous failures in my own practice and the practice of other surgeons were due to imperfect removal of diseased tissues, especially in the acetabulum and the capsule. Koenig attacks these structures boldly and fearlessly with his chisels and large spoons, and does not close the wound unless he has satisfied himself that the object of the operation, the removal of the granulation tissue, has been accomplished. Other surgeons will do well to follow his example.

That iodoform is used after these operations is unnecessary to mention, as Professor Koenig has not lost his faith in the anti-bacillary effect of this drug. You are undoubtedly aware that two of your countrymen have recently tried to prove that iodoform has no antiseptic properties whatever. This is a strong claim, as it comes in conflict with the practical experience of thousands of surgeons who for several years have had unlimited faith in its antiseptic qualities, and have been pleased with the results. The communication from Copenhagen caused quite a commotion among the German surgeons, as the claims were based on results obtained from experiments, and no one doubted the reliability or sincerity of its authors. Numerous careful experiments were made in Berlin by de Ruyter, who presented the results of his investigations to the German Congress of Surgeons at their last meeting, wherein he showed to the satisfaction of all present that while iodoform may not prevent germ-growth directly, it

has a decided antiseptic action, as when it is brought in contact with ptomaines a chemical change takes place which destroys the toxic effects of the products of the germs. In the discussion after the reading of this paper Professor Bruns said that iodoform possesses direct anti-bacillary properties, and in support of this assertion states that he had treated fifty-four cases of tubercular abscess by injecting a mixture of alcohol, glycerine and iodoform after evacuating the pus, and out of this number forty recovered. As an additional proof of the anti-tubercular effect of iodoform, he has observed by careful examination that a few weeks after an iodoform injection into a tubercular abscess, the bacilli had completely disappeared. Volkmann expressed himself as perfectly satisfied with iodoform, and said that in the face of such uniform favorable results we had no right to abandon it as an antiseptic.

I have had an opportunity to satisfy myself, in the private laboratory of Professor Socin of Basle, which is in charge of Dr. Garrè, his private assistant, that something must have been wrong in the Copenhagen experiments. Dr. Garrè showed me a number of gelatin plates which had been exposed to an iodoform spray and subsequently inoculated with different pus microbes, and which remained perfectly sterile. Dr. Garrè attributed the antiseptic quality of iodoform entirely to the iodine which it contains, and consequently places great stress on using a reliable preparation, carefully kept in a dark place.

Prof. Koenig has had an extensive experience with cases of carcinoma of the rectum, and has come to the conclusion that when the disease has extended high up it is better not to resort to desperate measures with a view to its removal, but prefers now, in such cases, to make an inguinal colotomy by dividing the bowel completely, emptying and closing the distal end and stitching the proximal end into the wound. This operation affords great relief, prolongs life, and

is preferable to the more doubtful results obtainable by extirpation of a high rectal cancer. I believe Koenig only echoes the sentiments of all prudent and conscientious surgeons on this subject. There is a limit to radical measures in this as well as in malignant affections of other organs.

Professor Rosenbach has finally succeeded, after a long and patient search, in demonstrating the germ of a rather frequent but heretofore obscure lesion, *erysipelatoid of the fingers*. This disease is a specific dermatitis and always results from inoculation. Butchers, cooks, in fact persons handling game, are most frequently affected by it. The appearances of the skin resemble true erysipelas, but the affection remains circumscribed, never gives rise to constitutional symptoms, and disappears spontaneously after two to four weeks. The germ, which is invariably present, belongs to the class of algæ, grows readily upon gelatine culture, and when inoculated always produces the same disease.

One of the evenings in Göttingen I spent at the house of Professor Rosenbach, where I met Professor Merkel, the anatomist, and the house staff of the surgical clinic. A superb dinner was served, and although our host does not enjoy the weed, he had made special provision for this occasion, and the best brands of imported cigars were freely distributed during the evening. I visited Professor Merkel the next morning at the Theatrum Anatomicum and examined the splendid collection of skulls, Langenbeck's beautiful dissections of vessels and nerves, and the beautiful specimens of injected lymphatics made by Teichmann for his classical work on the "Anatomy of the Lymphatics." The table in the lecture-room is the same as was used by my distinguished countryman, Haller. It is made of oak wood, and although not as convenient as the dissecting tables of more modern construction, it answers every purpose, and it is to be hoped that it will serve the same useful purpose

for many generations yet to come. The sight of such a venerable structure brings up many memories of the past, as a number of the greatest anatomists have stood at its head, and many of the most distinguished men who have gathered around it for several centuries have here laid the foundation for their successful career. Professor Merkel is a son-in-law and successor of the famous anatomist Henle, and is a worthy follower of the long line of distinguished anatomists who have preceded him. He is now writing an extensive work on surgical anatomy which presents certain features which are destined to make it the most useful text-book on this subject.

The crowning point of my visit to this old seat of learning was a dinner given by Professor Koenig in one of the apartments of the hospital shortly before my departure, to which Professor Rosenbach and the house surgeons were invited. Toasts were drank, views exchanged until the cruel town clock reminded us that the hour for leaving had arrived. I parted from the band with a distinct promise that we should meet again "in the land of the free and the home of the brave." Very sincerely yours, N. SENN.

BERLIN AND HALLE.

German Congress of Surgeons—Volkmann's Clinic—Antiseptics in Compound Fracture; Dry Dressings—Candidates in Full Dress—Reform in Study and Teaching—Tuberculosis of Bones and Joints—Subcutaneous Osteotomy—Volkmann—Ohlshausen—Vesico-Vaginal Fistula—Geugmer.

My Dear Doctor Fenger:—I visited Berlin for the special purpose of attending the meeting of the German Congress of Surgeons, which convened in that city April 13, and lasted for four days. You have undoubtedly read abstracts of the transactions in the medical journals, and I will make no attempt to give an account of the proceedings, but will limit myself to a few critical remarks. I have been a member of the Congress for a number of years and always waited anxiously for the annual volume of Transactions, but this was the first time I had had an opportunity of meeting its members face to face. A personal acquaintance always adds more interest to the literary productions of a writer or author, and it afforded me a great deal of pleasure to form personal acquaintances with men whose names had become familiar to me in German literature. From the votes taken for the election of officers I think about 150 members were in attendance, and among them many whose names have long ago found a permanent place in surgical literature. Among the most distinguished members present I will only mention Volkmann, Esmarch, Bergmann, Bardeleben, Rosenbach, Schoenborn, Wölfler, Gurlt, Kocher, Socin, Bruns, Hahn, Kümmel, Mikulicz, Madelung, Trendelenburg, Kuester, Kovács, Israel and Julius Wolff. The first evening was devoted to an informal reception at the

Hotel du Nord, where old acquaintances were renewed and new members introduced, after which many met again in a favorite beer saloon where a superior quality of an infusion of hops imported from Munich, was freely patronized. I understand that these informal gatherings are usually prolonged until 1 or 2 o'clock in the morning, and yet I always found the members ready for work early the next morning. The permanent president, the founder and idol of the Society, B. von Langenbeck, was unable to attend on account of ill health, which made the first vice-president, von Volkmann, the presiding officer. You will be sorry to learn that Volkmann's health has been seriously impaired, as I believe, mostly from overwork. He had just returned from Italy where he had been for three months for the purpose of regaining his former activity of body and mind, but his whole appearance indicates that the object of his visit was not realized, as he looked haggard and careworn. It is indeed sad to see such a bodily and mental giant in such a pitiable condition, and all for the sake of science and for the benefit of his fellow-men. The Congress was formally opened in the Aula of the University by the President, with an eloquent address, in which he alluded feelingly and in beautiful language to Carl Schröder and other members who died during the last year. Professor Billroth and Sir Spencer Wells were elected as honorary members, a just recognition of valuable services rendered science by both of these distinguished surgeons.

The programme for this year was a very prolific one as the list of subjects announced contained the titles of at least 20 papers. The large number of papers made it necessary to limit the time, and for the last 6 papers only five minutes were allowed for the reading of each. That for want of time the discussions were often cut off short can be readily imagined. I think it would be profitable for the German Congress of Surgeons to imitate the exam-

ple of their American brethren, and limit the number of papers sufficiently so that each author has ample time to fully present his subject, to be followed by a free and full discussion by the members. Another great fault that prevails here is, that the subjects are not announced always before the time of meeting, so that the members are unable to tell beforehand what topics will be presented and discussed. The American Surgical Association requires that each member who is elected to read a paper must not only announce his subject several weeks in advance of the meeting, but he is also expected to furnish the Secretary with a synopsis of his paper, so that when the members receive the programmes from the Secretary they can prepare themselves for the discussions, an example which the German Congress should adopt at once, as by doing so certain important surgical topics annually presented will be fully and systematically treated and will represent not only the views of the writers of the papers, but of all those who participate in the discussions. One important feature of all meetings of the German Congress consists in clinical demonstrations of important cases, and in this respect we should learn from the Germans and make our meetings more interesting and profitable by presenting more cases and pathological specimens to illustrate our work. At this meeting Sonnenberg showed at least 5 cases of Charcot's disease of the articular extremities of the long bones, Helferich a case of myositis ossificans, Israel a case of cheiloplastic, also a case of rhinoplastic and necessary pathological specimens were exhibited. Madelung was the only one who read his paper in full; all the other speakers did not use their manuscript. One morning I accompanied a number of the members to the Fridrichshain Hospital where Dr. E. Hahn, surgeon in charge of that institution, showed us on the cadaver how to perform gastro-enterostomy. On this occasion I was requested to illustrate my method of

performing circular resection of the intestine and of establishing intestinal anastomosis, to which of course I readily consented. All present manifested a good deal of interest in the new procedures. The day previous to the final adjournment Professor Bergmann was elected by a large majority as President for the ensuing year. Although the meeting was protracted for four days I observed, contrary to what we find in America, that nearly all the members remained to the last. The German when he undertakes a thing always does it well and comes to stay to the last. He considers these meetings as important events and will not leave for trivial causes or no causes at all. The last day of meeting of all American societies is always slimly attended and at the final adjournment often hardly a quorum is present, an evil which certainly should be corrected.

From Berlin I went to Halle, where I arrived April 18. Volkmann's Surgical Klinik is one of the best in the world. It is built on the pavilion plan, composed of four sections, each section furnishing accommodations for thirty patients. The operating amphitheatre is a model of its kind, and in its construction every care has been taken to make it perfect in its adaptation to antiseptic surgery. The crucial test for the value of antiseptic surgery in preventing usual infection has been furnished here if anywhere. Volkmann has now treated 300 consecutive cases of compound fractures without losing a single case from septic infection. This unparalleled success can only be attributed to antiseptic precautions in the hands of a master. Corrosive sublimate and iodoform are the favorite antiseptic agents at present and as a dressing for wounds a small compress of antiseptic gauze is used, over which a large cushion of moss is applied. Volkmann places the greatest importance in the use of dry dressings and prefers moss to woodwool or any other substance. I visited his clinic for two days and al-

though no major operations were performed I learned many things which will be of great value to me.

I found here a relic of the past age in the shape of four young gentlemen in full dress. At first I thought they might be waiters in search of a place who had mistaken the beautiful hospital for a hotel or first-class restaurant, but on looking at them a second time I detected the infallible sign across their cheeks and foreheads which showed that they were university men, and upon inquiry I was told that they were candidates for graduation. It still remained a custom in that city that candidates for graduation during their last semester must appear in full dress. These young men were at first objects of curiosity to me but soon became transformed into objects of sincere sympathy. One by one they were called down into the forum, and confronted with a case through which they could not look as through transparent glass they became the target of a volley of quick, sharp questions which when not answered as promptly would meet with such encouraging remarks as "Aber, mein Herr, Sie haben mir diesen Morgen noch keine einzige richtige Antwort gegeben." Do you suppose these young men under such circumstances felt proud of their distinctive dress? Not a bit of it. I am sure that when pushed to the wall they would have been willing to amputate the tail end of their dress-coats, and for the time being at least, do duty in positions suitable for coats which had undergone such a radical change.

Prof. Volkmann impressed me as a thorough but hard teacher. Certainly, when a man with many scars comes up at the end of his last semester for graduation and cannot answer the simplest questions, there is some excuse for a teacher to become indignant. But harsh words at this stage of proceedings will not alter the case. If these young men had worked hard, and instead of duelling had spent their time in the dissecting room or the pathological labor-

atory, there would have been no occasion to wear a dress-coat, in disgrace. The trouble with German teachers is that they do all the questioning at the end of the term, after the student has spent perhaps one, two, three or almost four years in idleness. Let the professors do as we do in America, submit the students to daily or at least weekly examinations throughout their entire time of study, and the results will be vastly better. It is impossible to make up in a few months what should have been done for years. There is no question in my mind that the average American student learns more in one month than the average German student in three. He learns more not because he has better teachers, or better facilities, but he makes better use of his time. I am satisfied that in our last graduating class I had at least a dozen students who, after studying three years, would pass a brilliant examination in any English or German university. They would have felt at home even in a dress-coat in Volkmann's Klinik passing their final examinations.

Volkmann is a firm advocate of early and thorough operations for tuberculosis of bones and joints, but thinks that the time has not arrived when we can render a decisive answer in regard to the prevention of general tuberculosis by the surgical removal of localized lesions. He says that scientifically operations are strongly indicated, practically the surgical treatment is still on trial. Although he has now performed more than 200 excisions of the knee-joint for tuberculosis, he feels incompetent to render a final decision.

Among the many interesting cases that I saw was a young man from Finland who came to Halle for the treatment of an ankylosed hip. He had suffered from coxitis when 3 years of age, and when the disease finally became arrested it left the hip joint contracted. When he came under Volkmann's care the foot on the affected side could not be brought

within ten inches of the ground. The limb was greatly atrophied and hip joint the seat of bony ankylosis. Subtrochanteric osteotomy was performed and, as the thigh was also greatly adducted, the adductor muscles were divided at the same time. For months no attempt at union was observed at the seat of osteotomy, and no improvement in this direction took place until H. H. Smith's splint was applied and the patient allowed to walk around. Soon after this treatment was adopted callus formation commenced to take place, and now, more than a year after operation, an abundant callus marks the place where the bone was divided, and perfect bony union will be the result. The limb is now only about three inches shorter than the opposite one, and with a high sole the patient will soon be able to walk without artificial support. In dividing the adductors of the thigh, the sterno-cleido-mastoid, and some other deep-seated muscles, Volkmann prefers the open section to subcutaneous division, as the antiseptic treatment prevents complications, and through an open incision the opposing tissues can be more thoroughly and safely divided.

Although Volkmann is only 57 years of age, I fear that his scientific career is near at an end on account of ill-health. His work has been well done. He can afford to rest. Let us hope that his health may improve so that he may enjoy the fruits of his labor. He will continue to live and to work through his numerous pupils and a grateful profession.

A visit to Professor Olshausen and his gynecological and obstetrical wards satisfied me that the principles of antiseptic surgery sown in such close proximity had taken deep roots and had thoroughly developed in a new sphere of usefulness. Both the gynecological and lying-in wards are perfect specimens of ordinary and surgical cleanliness, and consequently indigenous cases of puerperal sepsis are almost unheard of. Professor Olshausen has been

elected to the important and responsible chair in the Berlin University recently rendered vacant by the death of Professor Schröder. He showed me a number of cases of abdominal section which had been recently performed, and all the patients were doing well.

I witnessed an operation for vesico-vaginal fistula. The opening, large enough to introduce the tip of the little finger, was located near the anterior lip of the cervix uteri. The margins were vivified with the knife, and the edges carefully approximated and coaptated with four deep and four superficial silkworm gut sutures. The impermeability of the wound was tested by injecting milk into the bladder. Antiseptic drainage of the bladder through the urethra was established by inserting a short hard rubber tube to which was attached flexible rubber tubing, the distal end of which was kept in a dependent position and under a carbolized solution. An iodoform tampon was placed in the vagina. Professor Olshausen has not used silver wire for twenty years, and now uses in such operations exclusively silkworm gut sutures.

When I visited Professor Geuzmer at his house I found him celebrating his birthday in the company of a select number of friends, but he appropriated at least one hour of the festive day for my benefit, and we spent the precious time in a profitable and interesting way in the discussion of select surgical topics. He has a large and remunerative private practice, and is one of the teachers of surgery in the University. Professor Geuzmer is well known as a teacher and writer, and at the last meeting of the German Congress he read a paper of great practical interest on a special form of hernia, which, after it has been printed, should be read by all surgeons who wish to keep themselves posted on this intricate subject.

N. SENN.

LEIPZIG AND DRESDEN.¹

Thiersch—Spondylitis—Tubercle Bacilli and Suppuration—Osteo-Myelitis—Von Lesser—Stelzer—Fragments of Wood in the Bowels—Foreign Body in the Heart—Tubercular Osteo-Myelitis—Vaginal Hysterectomy for Carcinoma—Leopold.

*Dear Dr. Fenger :—*From Halle I went to Leipzig for the purpose of spending a few days in the surgical wards of Professor Thiersch. I came in time to attend the opening lecture of the Spring term and soon became convinced that this famous surgeon had passed the zenith of fame and usefulness, and is rapidly approaching senile marasmus physically and mentally. Thiersch has immortalized himself by his many ingenious plastic operations and his classical work on "Epithelial Carcinoma," as well as by many other valuable contributions to surgical literature. It is a great pity that such men, for the sake of science, grow old too soon, but such is life, short in its duration, and the greatest genius must submit to the inevitable consequences incident to old age. During my former, as well as on this, visit to Europe I have been repeatedly reminded of the fact that when a man arrives at a certain age it would be better for himself, for his reputation, and more especially for the school he represents, to retire. Langenbeck appreciated this fact and retired at a time when he was still in the possession of all his faculties to make room for a man younger in years. The sooner Thiersch follows his example the better for himself and the students. There are many younger men in Germany who would bring more enthusiasm into the lecture room, and who are well prepared to become the successor of this eminent surgeon.

In his introductory lecture he advised his students to take full notes on the cases presented in the clinic so as to preserve the material thus gained for future use and reference. The subject of his clinic was spondylitis, and he presented a number of cases to illustrate the different stages of the disease. He called attention to the fact that tubercular inflammations of bone or joints may heal spontaneously as long as no suppuration takes place, and that even in the latter event a cure is still possible. I believe it can be considered as a settled fact that the bacillus of tuberculosis produces no suppuration, that its presence only indicates a specific inflammation which terminates invariably in the production of granulation tissue, and that when suppuration takes place secondary infection with pus microbes has occurred. A tubercular abscess without the presence of pus microbes does not contain pus, but the products of degenerative changes in the fungous granulations. If the bacillus of tuberculosis meets with sufficient resistance on the part of the surrounding tissues it finally exhausts the nutritive material in the granulations and dies, or remains in a latent condition, and the granulation material is converted into connective or cicatricial tissue and the local lesion is cured. These are the cases which terminate most frequently in spontaneous cure. If liquefaction of the infected tissues takes place and the products of degeneration are absorbed a similar favorable termination is possible. If the same product is evacuated by incision under antiseptic precautions a spontaneous cure is accelerated. If on the other hand a secondary infection with pus microbes takes place the patient incurs the danger of septic infection and diffusion of the tubercular process. Thiersch never alluded to the operative treatment of tubercular spondylitis, and a number of cases which were shown seemed to prove that such a course of treatment is unusual in his practice.

A case of osteo-myelitis in a young man was brought into the operating room after the class had been dismissed. The original disease affected the tibia and adjacent parts and amputation of the thigh had been performed to save the life of the patient. As is so often the case during the latter part of the infective process the lower epiphyses of both radii became painful and swollen. At present the patient has no fever and the lower end of the bones is only moderately swollen and tender. The patient was narcotized and the lower end of one of the bones was opened with a chisel under the supposition that it contained pus. The cancellated structure was found in an osteo-porotic condition, but no pus or necrosed bone was found. It is one of the characteristic features of acute infective osteo-myelitis that the intensity of the infective process is diminished with successive attacks in different bones of the same individual, and that the more remote the time of infection from the primary attack the less the tendency to suppuration. While at the primary seat of infection rapid suppuration takes place the secondary or tertiary points of infection are less likely to suppurate. Very often the remote points of localization become the seat of an osteo plastic inflammation because the potency of the infective germs has become reduced to such an extent that they are no longer capable of producing pus, hence I was not at all astonished that in this operation no pus was found, but that the bone was in a condition of osteo-plastic inflammation.

The surgical wards of the Klinik contain 150 beds which afford ample material for clinical instruction. The antiseptic treatment of wounds is not as thoroughly carried out as in most of the Kliniks in Germany, and a visit through the wards only corroborated this statement. During my stay in Leipzig I called on Freiherr Dr. von Lesser, who is one of the teachers of surgery in the University. He is an able

surgeon and a hard student, and well known by his numerous contributions to surgical literature. I was so unfavorably impressed with the surgical clinic in this city that I left the next day for Dresden.

I had met Dr. Stelzer in Berlin, and as his papers at that time attracted a good deal of attention, I was anxious to see some of his work in the hospital. Dr. Stelzer has a very large clinical material at the Allgemeines Krankenhaus in Dresden, and is known to have performed many novel and difficult operations. You will find in the next volume of the *Transactions of the German Congress of Surgeons*, a paper read by him in which he gives a graphic description of two abdominal sections made on the same patient for the purpose of removing large fragments of wood from the intestinal canal, with recovery of the patient, and another in which he gives a description of an operation for the removal of a foreign body from the heart; and although he did not succeed in extracting it after he had exposed the heart and had seen the foreign body, (a piece of knitting-needle) his patient recovered, although during the operation not only the pericardium but the pleura also was opened. He showed me a number of exceedingly interesting cases, which for want of space and time I am sorry I cannot describe. Sublimate solutions are used for irrigation and sublimated wood-wool for dressing.

The first day I visited the hospital I saw him perform an operation for tubercular osteo-myelitis in the tibia of a young woman. The bone was considerably swollen above the ankle, and a number of fistulous communications led to the diseased bone. With a chisel the bone was opened above the ankle-joint, and in the line of the epiphyseal cartilage a large carious deposit was found which was carefully removed with a sharp spoon. Most surgeons would have stopped here, as the bone above this point showed no enlargement and the tubercular depot

had been apparently removed by the *évidement*, but Dr. Stelzer suspected mischief higher up and chiseled away more of the anterior wall of the tibia, and to my utter astonishment exposed a number of distinct and isolated tubercular foci as far as the upper epiphysis of the tibia. This case was instructive to me, and has satisfied me that many of the recurrences after operations for tuberculosis in bone are due to imperfect operations. The distant tubercular foci had not as yet given rise to secondary periostitis, and a more careless operator would certainly have overlooked them and his services would have been called into requisition at some future time without fail. The wound was closed with sutures, except at the upper and lower angles where drains were introduced.

The second day I saw him perform a vaginal hysterectomy for carcinoma. The woman was 35 years of age, and a multipara. The disease had existed for some time, but appeared to be limited to the cervix. Thorough antiseptic precautions were observed before and during the operation. The patient was placed in exaggerated lithotomy position and the uterus rendered accessible with retractors. Instead of forceps sharp double hooks were used for bringing the uterus down. The vaginal roof close to the insertion of the uterus was incised with the scalpel and the organ detached with blunt instruments and scissors. Where hæmorrhage was expected the incision was made between two ligatures. The peritoneal cavity was first opened in front of the uterus, but as it was found impossible to anteverte the fundus sufficiently to bring it out through the wound, the cul-de-sac of Douglas was opened, and the fundus brought out through this opening. The round and broad ligaments were tied separately before they were divided. After the uterus was removed the omentum came down into the vagina, and after thorough disinfection it was reduced and the vaginal canal plugged

with iodoform guaze. Duration of operation about an hour and a half.

I visited the gynecological and obstetrical wards in charge of Professor Leopold, and was promised a laparotomy for next day. I was asked to come perfectly aseptic, which request I carried out conscientiously, including bath, shampooing, etc.; but was informed next morning that inasmuch as the city was celebrating the King's birthday, the operation would be postponed. As Dr. Stelzer performed his vaginal hysterectomy an hour later it could not have been considered a crime in Dresden to perform a surgical operation on such an eventful day, and I made up my mind that a surgeon who postpones on such flimsy grounds cannot be troubled with many operations during the year; consequently I did not wait to test the reliability of the second promise, but lost no time in transporting the aseptic *ego* to a more profitable place.

N. SENN.

PRAGUE.

Gussenbauer ; his Methods—Enlargement of Cervical Glands—Tuberculosis of the Cheek—Fistulæ from Osteo-Myelitis of Femur—Litholapaxy—Genu Valgum—Resection of Intestine for Gangrene—Chiari ; his Work and Laboratory—Unique Skull.

*Dear Dr. Fenger:—*I arrived in Prague April 26, and at once sought Prof. Gussenbauer, who impressed me very favorably. He is about 44 years of age, and blessed with a vigorous, healthy constitution. His aspect and behavior indicate that he is a hard worker. He has charge of the surgical wards in the Stadt-krankenhaus, which contain 120 beds and afford a rich material for clinical teaching. Hardly a day passes but he performs two or more capital operations. He is a good lecturer and a splendid teacher. In his Klinik, when a case is shown, one of the assistants reads a short history, which is followed by brief remarks with special reference to a correct diagnosis by Gussenbauer. After all the material for the day has been presented the operations begin. The antiseptic solution for irrigation is a 1 : 1,000 solution of corrosive sublimate, and a 4 per cent solution of carbolic acid for the instruments. As a dressing for wounds a small compress of sublimated gauze is used, over which a copious dressing of dry aseptic hygroscopic gauze is applied, and the whole is covered with a cheap impermeable rubber cloth. I can only give you a very brief account of what I saw during my three days with Gussenbauer.

The first case was one of enlargement of the cervical glands on one side in a woman 40 years of age. The history showed that when she was a girl a few of the submaxillary glands became swollen, and remained in this condition stationary for twenty years. Two

years ago the same glands increased in size, and additional glands in the direction of the lymph current became involved. It was assumed that the primary enlargement was a simple hyperplasia, and that the recent progress was due to tubercular infection; in other words, the hyperplastic glands had furnished the soil for localization of the tubercle bacillus. The removal of the glands made a deep and very careful dissection necessary, as some of them were in close contact with the large vessels of the neck. The internal jugular vein was laid bare for three inches. Wherever it was deemed necessary the division of parts was made between compression forceps.

The second case was one of tuberculosis of the cheek in a man 50 years of age. The swelling had ulcerated externally, and where the skin had given way the surface was covered with flabby granulations. The mucous membrane of the mouth was closely attached to the swelling. The whole mass was rapidly excised, hæmorrhage carefully arrested and the mucous membrane sutured, while the external large defect was covered with a flap taken from behind the ear.

The third case was that of a boy who had suffered from an acute attack of osteo-myelitis of the lower end of the femur several years ago, and who now had numerous fistulous openings leading to the primary location of the disease. Numerous incisions were made down to the bone, but no central reservoir could be located, and the whole lower end of the femur appeared to be covered with fungous granulations which contained a number of small spiculæ of bone. The granulations were carefully removed with a sharp spoon, and the different cavities were drained and some of them packed with iodoform gauze.

The fourth case was one of litholapaxy in an old man who had been relieved and apparently cured by the same operator on two previous occasions. On measurement it was found that the stone measured 3 cm. Chloroform was administered, and the instru-

ment for crushing was introduced four times, and each time a number of seizures were made and the evacuator removed a large mass of detritus. After the last crushing and evacuation the interior of the bladder was carefully explored, and no more fragments could be detected. Towards the last a small lithotrite was used for seizing and crushing of small fragments. The whole operation lasted nearly an hour.

The fifth case was a genu valgum. I had seen so many cases of osteotomy for this deformity that I was very anxious to witness a bloodless procedure for the correction of the false position. Professor Gussenbauer has for a long time abandoned the cutting operation, and substituted for it the simple *redressement*. He showed me several dozen of photographs taken before and after treatment, and the final results certainly compare favorably with those obtained by osteotomy. The advantages of this treatment consist in an absolute safety against infection, and in requiring less time on part of the patient. After the patient is fully anæsthetized he is placed on his side, and the surgeon puts the limb upon his right shoulder in such a position that the convexity at the knee is directed upwards. With both of his hands he makes forcible interrupted pressure over the knee, and if his force is not adequate to correct the deformity one or more assistants help to increase the force. The straightening is gradually accomplished, and often attended by an audible noise caused by the rupture of ligamentous structures. The whole object of the operation must be accomplished at one sitting, and the proper axis of the limb must be completely restored. In the case I saw the deformity was considerable, and the patient otherwise a healthy young man. It required the combined efforts of the operator and two of his assistants to properly straighten the limb. After the operation the limb is at once secured in a plaster-of-Paris splint. After three weeks an interrupted plaster splint is applied, with a hinge-joint on

each side, and the patient is allowed to walk without the aid of crutches. Gussenbauer has never observed any unfavorable results after this procedure, and in ordinary cases confidently expects a favorable result. The patients are required to wear a lateral support for at least six months in order to prevent a recurrence of the deformity. I am satisfied that, in the milder forms of genu valgum and varum, this treatment is more applicable than osteotomy, and should always be tried before resorting to the more serious measure of causing a fracture.

Prof. Gussenbauer is justly proud of a case which he has now in the hospital in which resection of the intestine for gangrene resulting from strangulation was successfully performed. The abdominal wound is healed, the bowels move regularly and the patient can be considered entirely out of danger. Such a result must be a great satisfaction to the surgeon, and encourage him in the future to resort to desperate measures in desperate cases.

I had the pleasure of meeting the distinguished professor of pathology, H. Chiari, at the house of Professor Gussenbauer, where we spent several interesting hours around the dinner table. The next morning I witnessed an autopsy at the Children's Hospital and had an opportunity to see and hear how accurately the work is done. Prof. Chiari also showed me through the splendid laboratory and demonstrated many interesting specimens in the museum. Although a comparatively young man, Chiari stands in the front rank of German pathologists and the profession may confidently expect that through his energy and enthusiasm many new discoveries will be made. I also examined the splendid anatomical collection under the guidance of Dr. Rex, prosector of anatomy. This collection contains a unique skull. The cranial bones throughout are at least an inch in thickness, perfectly solid, and the skull is so heavy that it seems to be composed more of stone than bone.

N. SENN.

MUNICH.

The University—Over-crowding in the Profession—Doctors and Rich Wives—Nussbaum; his Work—Extirpation of Struma—Ovariectomy—Winckel—Perineo-Plasty—Angerer—Excision of Knee for Tubercular Osteo-Myelitis—Heidelmeyer.

Dear Dr. Fenger:—When I arrived in Munich I felt at home, as I attended lectures here during the year 1878. I remained for a whole week, and during this time saw many interesting cases with my former teacher of surgery, Professor Nussbaum, and Professors Winckel and Angerer. The Allgemeine Krankenhaus has undergone no change for the better since I attended before. The University in this city now numbers 1100 medical students. Considering the number of universities in Germany and the large number of students in attendance almost everywhere, it becomes a serious question what is to become of these young men after their graduation. The country is now more than supplied with physicians, and if the increase continues for a number of years in the same ratio it is difficult to conceive in what way the medical men are to earn their daily bread.

The German government is well aware of the prevailing evil that too many graduates of the gymnasias choose the medical profession, and has taken steps to lead them into other channels by calling their attention to the existing evil through the columns of the public press. Only a few days ago Professor Hegar, of Freiburg, informed me that unless a decided change occurred in this direction the medical profession would soon degenerate into a "proletariat." It is well known that even at the present

time, in some country towns, doctors will make visits, and even supply the necessary medicine, at half a mark. An ignorant "Dienstmann" would look with scorn at anything less than this for carrying your valise from the depot to the hotel. We have many cheap doctors in America, but their fees must be considered as royal when compared with such a beggarly sum. There is great danger that the same condition will prevail in America at no distant time, unless the medical colleges adopt timely measures to prevent over-crowding of the profession by elevating the standard for admission to the study of medicine as well as graduation. Nothing will degrade the profession so quickly in the eyes of the public as over-crowding. In the struggle for an existence men will resort to ways and means which they know are wrong.

It is quite a fashion in Europe, among medical men, to marry rich wives in order to keep the wolf from the door; but in my judgment such a course only aggravates the social and professional standing, as wealth acquired in such an easy way brings obligations which are antagonistic to scientific advancement. Unless a man acquires wealth by his own efforts he will seldom find his way into the front ranks of the profession. It is better for a man to remain poor as long as he lives, and labor honestly and perseveringly in the interests of his chosen profession, than to be constantly handicapped by a rich wife or her many relatives. It is seldom that a rich woman has the good sense to satisfy her ambition in promoting the scientific attainments of her husband; her interests are usually outside of the things that pertain to the profession. Only too often her greatest, yes, her only desire is to become a conspicuous figure in society, and as she cannot attend the balls, receptions and theatres alone, the man who married her for her money must do at least what he can to make her happy, and must go along. In this

way perhaps six evenings in the week are spent, and the books and medical journals, if money is spent for such things, become covered with dust.

That this picture is not overdrawn you can verify in your own city, where many of the richest doctors, who ought to occupy prominent positions among their colleagues are not known outside the small circle of friends and acquaintances where they are tolerated only on account of their wealth. Science is making such rapid strides that its devotees have absolutely no time for the doubtful pleasures which society can offer. The good standing and purity of our profession can only be maintained by admitting into its ranks only men with natural adaptations and an innate love and devotion for the advancement of medical science and its collateral branches.

Contrary to several reports that I had received, I found Professor Nussbaum in tolerably good health, and attending to his duties in the hospital with the same regularity and enthusiasm as nine years ago. To those who have known him for many years his present condition is a mystery. During the Franco-Prussian war he suffered from coxitis, which left one of his hip joints in a contracted ankylosed condition, and since then he has had the misfortune of fracturing several of his bones; and yet after so much suffering and confinement he retains his mental vigor and works with the same enthusiasm as years ago. Physically crippled, mentally he is a giant. To follow such a man in his work for a few days ought to be enough for any man to stimulate him to follow such an illustrious example. Nussbaum has been a hard worker all his life time, and his work bears the stamp of originality. His enthusiasm carries him sometimes too far, and yet these extremes have often been productive of a great deal of good. He was one of the first apostles of antiseptic surgery in Germany, and his little book (*Leitfaden der antiseptischen Wundbehandlung*) went

through four editions, and did more towards the general adoption of antiseptic principles in the treatment of wounds than all the rest of the German literature combined; but he is familiar, at the same time, with the American and French authors and writers. His lectures are always interesting and fascinating, and the lecture room and operating theatre are always crowded with students.

During the time I remained in Munich I had the good fortune to see him perform three capital operations, which I will briefly detail. The first was an extirpation of a struma. The patient was a girl 25 years of age, who had noticed an enlargement of the neck when she was 14 years of age. The swelling gradually increased in size until, for the last year, it has given rise to a great deal of discomfort, at times giving rise to suffocating sensations. The tumor was about the size of a hen's egg, located directly over the trachea. In his remarks on the operation attention was called to the serious consequences which have followed complete extirpation of the thyroid gland as described by Kocher under the title of *cachexia strumi priva*, as well as the results which have been obtained by experimental research. It was also stated that since complete excision has been abandoned tetanus had also disappeared from the statistics of struma operations. Kocher's incision along the anterior margin of the left sternocleido-mastoid was made, and the tumor well exposed. Until the capsule was reached layer after layer was carefully divided and all hæmorrhage arrested. With blunt instruments the base of the tumor on each side was reached, and the parts containing the large vessels isolated into sections, and divided between two ligatures. By resorting to these precautions the operation was rendered almost bloodless. The trachea was found somewhat compressed, but sufficiently firm to retain its shape after the removal of the tumor. In cases in which the trachea

has become so compressed and atrophied from pressure that after the removal there is danger of suffocation from sudden collapse or flexion, he resorts to amputation of the middle portion of the tumor over the trachea with Paquelin's cautery, so as to leave the part which supports the weakened portion of the trachea. Portions of both lateral lobes were left in this case. The cavity was filled with iodoform gauze and the skin partially united. The iodoform gauze tampon was intended for drainage, and was removed the next day, and the wound at this time was more carefully sutured.

The second case was an ovariectomy on a patient 67 years of age. The tumor had been noticed two years ago, but had increased in size rapidly for the last few months. The abdomen was moderately distended, fluctuating, uterus high, but in the pelvis a number of hard nodules could be felt. Attention was called to the difficulty of differentiating in some cases between ascites and ovarian cyst. In very obscure cases a positive diagnosis is only possible by an exploratory incision. During the operation the temperature of the room was at least 95° F., which made not only the operator but all the students perspire freely. The abdomen and pubes were shaved and thoroughly disinfected the day before, and kept covered with a compress saturated with a carbolyzed solution. The abdominal incision was at least four inches in length. The tumor was tapped with a large straight trocar and drawn forward into the wound with forceps, and rapidly emptied by incision and crushing of smaller cyst with the hand introduced through the opening. The pedicle, broad and fleshy, was compressed with Helferich's constrictor, and the groove made tied with strong double catgut strings; below this point the pedicle was transfixed and tied in two parts, also with catgut. Above the first ligature the pedicle was again forcibly compressed between the blades of Langenbeck's forceps and burned

off with Paquelin's cautery. The cleansing of the peritoneal cavity was done with large, soft sponges wrung out of a warm solution of carbolic acid. The abdominal wound was closed with a double row of chromatized catgut sutures and a typical Lister dressing applied.

All students are here admitted to laparotomies, and as the balcony above the operating table is usually crowded, it is remarkable that so few of the patients die of septic peritonitis.

The third case was another case of ovariectomy, also in an aged person. The tumor had been tapped twice, and each time a large quantity of fluid removed. After each tapping a hard mass could be felt in the pelvis. The abdominal incision was again made long and led directly into the cyst, as the latter was firmly adherent. It took some time to find the point where the two surfaces were adherent. The adhesions were separated rapidly, and no attention paid to the oozing which occurred. The hard masses which had been felt in the pelvis after tapping proved to be smaller cysts, which were ruptured with the hand introduced through the opening made in the principal cyst. As the tumor had no adhesions in the pelvis, it could be readily brought out through the abdominal wound. The pedicle was treated in the same manner as in the previous case.

Two days later both patients were doing well. As the surroundings under which Nussbaum operates are by no means calculated to protect the patients against infection, we must attribute his good results to the careful antiseptic precautions which he follows before and during the operations and the manual dexterity which he has acquired after such a long and extensive experience in abdominal surgery.

A good deal of my time in Munich was spent in the lecture-room and wards of Professor Winckel. Professor Winckel is well and favorably known by

his works on gynecology and childbed fever, as well as by his numerous valuable contributions to medical journals and society transactions. He organized the German Congress for Gynecology and was elected as its first President. He made an extensive tour through the United States and Canada last year, where he made valuable personal acquaintances. He is one of the leading gynecologists on the Continent, and has a better and more intimate acquaintance with the literature of his specialty than any other specialist. He is now writing a text-book on obstetrics, which will undoubtedly take the place of the most popular text-book on the same subject written by the lamented Carl Schröder. Professor Winckel has been a teacher almost since his graduation, and many of his pupils only a few years younger than himself are now distinguished surgeons and physicians. I was astonished when he told me that Professor Schoenborn, now of Würzburg, was one of his pupils, as the latter looks much older than his teacher. Winckel is a systematic worker, and never fails to make good use of his vacations to benefit his bodily health, and this undoubtedly explains his excellent physical condition. He is a great traveler and a most accurate observer. He is a hard student, a pleasant and forcible writer, a fascinating and enthusiastic teacher, a splendid diagnostician, and a brilliant and beautiful operator. He is a most valuable member of the Faculty, and will make his department one of the most attractive and successful in Europe. In his obstetrical wards the most scrupulous cleanliness prevails, and wherever necessary full antiseptic precautions are practiced, consequently indigenous cases of sepsis are almost unknown. His laparotomies are attended only by a few students, who must give proof that they have not been recently exposed to septic germs. I witnessed an ovariectomy in his wards which was done under strict antiseptic precautions and with a neatness and dispatch which would

be difficult to excel. The patient recovered without a single untoward symptom.

His private course on operative gynecology is unsurpassed by anything of this kind. The entire organs of generation of the female are removed from cadavers, preserved in an aqueous solution of corrosive sublimate, and kept ready for use. The soft parts are placed in a Schultze's phantom and attached in such an accurate manner that the normal relations are preserved. On such specimens the student is required to perform all the more important operations in gynecology under the immediate supervision of his teacher. Some of the students assist in the operations. When I was present the students were all arranged around three tables with as many operators, while Professor Winckel walked from place to place and directed the work. All teachers of gynecology should imitate this method of teaching, as it is the only way which will furnish adequate material for the different operations, and which will familiarize the students with the details of the most important operations.

I was very much interested in a case of perineoplasty which I witnessed. The laceration had extended into the rectum, and after vivifying the retracted margins of the rectal tear, coaptation was secured with silkworm-gut sutures passed through the entire thickness of the recto-vaginal wall and tied on the vaginal side. The perineum was sutured with the same material after Hegar's plan. Professor Winckel has performed this operation in many cases in this manner, and has never observed a recto-vaginal fistula after the operation. The recto-vaginal sutures are allowed to remain for several weeks.

Professor Angerer is the successor of Professor Helferich, now of Greifswald, and has charge of the polyclinic in the Reisingeriaum. The operating room holds about 100 students, and is daily crowded from 11 to 12. A large clinical material collects

here, and many important operations are performed, as the institution contains a few beds where patients can remain for a limited length of time. Angerer is a good lecturer and an expert operator.

Among a number of operations that I saw here I was most interested in a case of excision of the knee-joint in a little boy suffering from tubercular osteomyelitis of the inner condyle of the femur, and consecutive fungous synovitis of the joint. On a previous occasion a tubercular focus had been removed from the inner tuberosity of the tibia. The joint was opened by a transverse incision and division of the ligamentum patellæ. When the patella was reflected it was found that the primary focus in the tibia had not healed, but had extended into the joint; the internal condyle of femur on opposite side of joint was the seat of a similar depot, also in communication with the joint. But the most remarkable condition was seen in the joint and recesses underneath the patella and quadriceps muscle. Only half of the joint was the seat of infection and secondary fungous proliferation, as the remaining portion of the joint, corresponding to the external condyle of the femur and the external tuberosity of the tibia, remained in a perfectly healthy, intact condition, being separated from the diseased portion by a partition of firm connective tissue. This is the condition which had been described to me by Professor Koenig a few weeks before, in which nature makes an attempt to localize the extension of tubercular processes, even in joints, by throwing out a wall of cicatricial tissue. Portions of the condyle and tuberosity were removed with the saw, and the healthy portion of the joint was left intact. The tendon of the patella was sutured and the wound closed, except at points where bone was removed, where tubular drainage was established. A copious dry sublimated dressing was applied and the limb placed upon a posterior splint.

I suggested to Professor Angerer after the opera-

tion that, under similar favorable circumstances, it would be advisable to split off the remaining portion of the internal condyle to draw it downward until it could be brought in apposition with the head of the tibia, where it could be retained with one or two aseptic bone-nails. Such a modification would secure a better support for the tibia, and prevent a tendency to the formation of a genu valgum during the reparative process.

Professor Angerer drills his students thoroughly in surgical diagnosis, and makes them familiar with important details which are usually ignored in the larger clinics. In connection with the polyclinic is a small laboratory where, under the direction of Professor Angerer, bacteriological studies are made and specimens from the clinic examined under the microscope. It is such a laboratory as I have urged should exist in connection with every chair of surgery, for the purpose of developing and teaching surgical pathology. Mr. Heilmeyer, who works in this laboratory, is an expert in preparing and mounting specimens, and as the sale of his slides is his principal source of income, he deserves the patronage of all who wish to promote the welfare and happiness of an humble but devoted promoter of the science of medicine.

During my stay in Munich I enjoyed the hospitality and friendship of Professor Winckel, and I fear I shall not be able to reciprocate his kindness unless he undertakes another tour through the United States, an event which would be looked for with pleasure by a host of his American friends.

N. SENN.

ST. GALL AND ZURICH.

Tuberculosis of Cranium—Prolapse of Uterus—Sonderegger—Ambühl—Zurich—Krönlein—Swiss Universities—Resection of Chest Wall and Lung—Osteo-myelitis of Fractured Bones—Infectious Strumitis—Struma Operations—Carcinomatous Stricture of Colon—Klebs—Rohrer.

After visiting Lindau, Bregenz and Rorschach, I arrived in St. Gall May 4. This ancient city is the capital of the Canton of the same name, and although it has only a population of 30,000, it has two excellent hospitals, the Kantonspital and the Buergerspital; the latter, however, is only intended for convalescents, incurables, and serves at the same time as a poor-house. Each of the hospitals contains about 100 beds. Dr. Hilty, a physician of excellent local reputation, has charge of the medical wards, Dr. Feurer of the surgical, and Dr. Kuhn of the gynecological. Both Dr. Feurer and Dr. Kuhn are young, energetic men and excellent operators, and besides their onerous duties in the hospital do a large and lucrative private practice. I saw a number of interesting operations, and satisfied myself that excellent scientific and practical work is done here. The antiseptic treatment is thoroughly carried out and the operating room is supplied with all modern improvements and with an excellent assortment of instruments.

I saw here an interesting case of tuberculosis of the cranium in a woman about 30 years of age, where repeated operations had been performed, and over a large area corresponding to the superior longitudinal sinus the entire thickness of the bone had been

removed, but the disease returned a short time after every operation, and at present a number of sinuses lead to tubercular depots. The disease evidently creeps along the structure of the diploë, and is extending very rapidly. By continuity it has also extended to the dura mater, where it has given rise to a tubercular pachymeningitis, as the patient suffers from periodical attacks of headache and vomiting. In the children's ward I was shown a child several months of age with a meningocele the size of an adult's head. As the case is undoubtedly complicated by an encephalocele, no operative measures have been instituted.

Dr. Kuhn performed on the same patient and at the same time three distinct operations for an aggravated prolapse of the uterus. As the cervix was very much enlarged, a wedge-shaped piece was excised from both lips in such a manner that a complete cone was removed and the hæmorrhage arrested by carefully suturing with catgut. The cystocele was corrected by excision of an oblong piece of mucous membrane of the anterior vaginal wall, and the parts again sutured with catgut. The last operation was the customary colpo-perineorrhaphy. During the excision of the flap of mucous membrane the incisions were carried so deep that the rectum was exposed for some distance, and a number of vessels which bled freely had to be ligated. Catgut was used even for suturing the perineum. The German surgeons almost without exception use the knife instead of scissors in vivifying the parts in all vaginal operations, and it certainly seems to me that the wounds thus made are in a better condition to heal by rapid union than in cases where the tissues are cut with scissors. In this case at least a tablespoonful of iodoform was deposited in the vagina with a spatula, and the vaginal outlet was covered with a compress of iodoform gauze. As a disinfectant, both in the surgical and gynecological wards, a solution of

corrosive sublimate 1-1,000 is used, and sublimated gauze and cotton as a dressing.

For years I have been aware of the fact that St. Gall was the home of the leader of the medical profession of Switzerland, and I was therefore exceedingly anxious to become personally acquainted with Dr. Sonderegger. I never met with a more cordial reception, and his good wife insisted on serving a genuine Swiss dinner, and the doctor supplied the table with a brand of wine such as can only grow in the most favored valley in Switzerland, a Veltliner almost as old as the doctor himself. Dr. Sonderegger is the author of one of the best books on sanitary matters. He has a national reputation as an orator, and enjoys the respect and friendship of all who know him. With word and action he is always eager to preserve the honor and dignity of the medical profession and to impress his colleagues and the Government with the importance of preventive medicine. To his untiring efforts is due the establishment of a small laboratory in the city, where Dr. Ambühl, an able chemist, has done excellent service in improving the hygienic condition of the city and surrounding country towns. I am convinced that such an institution, with such a man at its head, is a greater benefit to a community than our more expensive local Boards of Health.

After spending a few days in my native village in the beautiful valley of the Rhine, I came to Zurich, and remained in this place a whole week. The hospital is the same as when I was here nine years ago, but a walk through the surgical wards was enough to show me that a change of directorship had taken place. When I was here before I saw the sad results of the open wound treatment as advocated and practised by Rose in every ward and almost in every bed. The rooms were filled with unpleasant odors from decomposing wound products, wounds were suppurating, and the patients looked haggard and many

marasmic. Primary union was not aimed at, and consequently was never observed. Since then Krönlein has taken Rose's place, and the whole aspect of things has undergone a radical change. The open wound treatment has given way to careful antiseptic measures, and in the same rooms you can hardly find a febrile patient. In the great majority of cases wounds heal by primary union, and suppuration is an exceedingly rare occurrence. Professor Krönlein is hardly 40 years of age, with a strong constitution and unlimited capacity for work. He first came into prominence by his controversy with Volkmann, and it is generally conceded that after a harsh and bitter fight he came out victorious. He next became well known as Langenbeck's favorite assistant, and during his term of service he wrote several articles which have since been frequently referred to by most authors and teachers. Switzerland is to be congratulated that the chair of surgery in all universities is now occupied by distinguished Swiss surgeons. For centuries it had been customary to import young men from Germany as professors, who remained until they received a call from some German university, when they resigned to make room for another one of their countrymen. There was no earthly reason why the Swiss universities should have remained so long as training schools for the German Privat-Dozenten, and it is to be hoped that after this, when a vacancy occurs, home talent will at least be given the first chance.

The surgical wards in the hospital contain eighty beds, which are always occupied. Zurich has 270 medical students, of which number forty are females. The female students here, as in the other schools in Switzerland, do not sit together in the operating-room, but prefer to mix thoroughly with the sterner sex. A look at the female aspirants for the medical degree is enough to show of what metal they are made. In the female wards I saw the young lady

whose case has been mentioned by almost every medical journal in the world, as Krönlein had removed a part of the chest wall and a portion of the lung for sarcoma. She recovered and remained in good health for more than a year, when a return of the disease was observed in the cicatrix. A few weeks ago the third operation was performed, when another piece of the lung was removed with a still larger section of the chest wall. The wound is now entirely healed, and the patient left the hospital the same day, in excellent health. The last operation was followed by an attack of croupous pneumonia.

From a pathological standpoint another case attracted my interest. A young man sustained several subcutaneous fractures from a fall, and at the same time a lacerated wound of the groin. The case progressed favorably until the wound commenced to suppurate, when he was suddenly attacked by osteomyelitis of the fractured bones, which necessitated numerous incisions for the liberation of pus at the seat of fractures. There can be no question that in this case the pus microbes entered the circulation at the primary seat of suppuration and were arrested at the seat of fracture, where they found favorable conditions for growth and initiated a suppurative inflammation in the medullary tissue. Practically this case should teach us that in a patient who has sustained a simple fracture it is exceedingly important to guard against suppuration in any part of the body, for fear that from such purulent depot germs might enter the circulation and cause a suppurative osteomyelitis of the fractured bone, in the same manner as has been done by experiments on animals.

A case of strumitis with a somewhat similar origin also attracted my interest. The patient was a man about 40 years of age who had been operated upon for empyema by rib-resection some time ago. He had a large goitre since childhood. The case progressed very favorably until the empyema was nearly

well, when suddenly the temperature rose and the right side of the struma became painful and tender. After a week fluctuation was well-marked and a large incision was made, which gave exit to a large quantity of fetid pus. The fever subsided at once and the case again progressed favorably until, a week or two later, the opposite side of the struma was attacked in a similar manner. I was present when this side was incised. A large amount of the same fetid green pus escaped. The strumitis was undoubtedly of embolic origin, the germs which gained access into the circulation from the pleural cavity found in the struma conditions which favored their localization and development, and produced a suppurative inflammation.

Of the numerous operations I saw during the week I will only detail two cases of struma operations. In both cases the operations were performed to relieve distressing symptoms. Chloroform narcosis was only kept up until the tumor was fully exposed; after this it was considered dangerous to continue its administration for fear that it might produce asphyxia.

The first case was a boy 20 years of age who had the commencement of a goitre ten years ago. The tumor gradually increased in size until recently it has given rise to a great deal of difficulty in breathing. Externally the tumor is not prominent, but when the head is thrown backward it can be distinctly seen to dip down behind the sternum. He has also experienced some trouble in swallowing, and its presence seems to have kept up a constant irritation in the trachea. The incision was made along the anterior margin of the sterno-cleido mastoid muscle, and hæmorrhage arrested as the tissues were divided layer by layer, until the capsule proper of the tumor was reached. Downwards the incision was carried as far as the sternum. The dissection on each side of the tumor was made with great care and mainly with the points of dissecting forceps and Ko-

cher's struma director. The superior and inferior thyroid arteries were isolated and divided between two Kocher's hæmostatic forceps. With great difficulty the post-sternal portion was lifted from its bed, and here the minutest precautions were exercised to secure every vessel before it was divided. The recurrent laryngeal nerve on the left side was exposed and drawn out of the way with blunt hooks.

The tumor seemed to spring mainly from the left lobe, and a part of the isthmus and entire right lobe could be left intact. The tumor was separated from the isthmus by tearing, which caused considerable bleeding, for the arrest of which a number of ligatures were required. I should think at least fifty ligatures were used during the operation, which lasted nearly two hours. The wound was frequently irrigated with a 1-1,000 solution of corrosive sublimate. A drain was introduced into the most dependent angle of the wound, and the balance of the wound was sutured. A large dressing of dry sublimated gauze and cotton was applied.

The second operation of this kind was made on a man 40 years of age who had had a goitre as long as he could remember. Although of considerable size, it gave rise to no serious trouble until quite recently. Lately it has been growing quite rapidly, and at present he suffers from great dyspnœa after the slightest exertion. The patient is very anæmic. The tumor is quite firm and its lower margin can be felt. The operation was the same as in the foregoing case, only that on account of firm adhesions to adjacent parts anteriorly the dissection in this locality was attended by great difficulty, as it was not easy to decide between tumor tissue and adherent parts. Near the base, where no such adhesions existed, the separation proceeded rapidly and without any accidents. The thyroid arteries were larger than the radial vessels. I noticed that wherever it was possible the hæmostatic forceps were always applied across the

vessels, which not only afforded better security in controlling the hæmorrhage, but also facilitated the application of the ligatures. In both cases the trachea was found considerably compressed and flattened, but no trouble appeared from this source, and the relief afforded by the operation was prompt and lasting in each instance. Both specimens on examination proved to be adenomata with cystic degeneration. Both patients were reported as doing well a week later.

The first day I was in Zurich I was present at a very interesting autopsy made by Professor Klebs upon one of Krönlein's patients. A few days before a woman 40 years of age was brought into the hospital presenting well-marked symptoms of intestinal obstruction, which had lasted for two weeks. On examination no cause for the obstruction could be found. The examination was not satisfactory, as the abdomen was very tympanitic. Laparotomy was performed, but as nothing could be found and the small intestines were found enormously distended throughout, inguinal colotomy was performed. The operation was followed by decided relief, the abdomen collapsed and a large quantity of fæces was discharged through the artificial anus; but the patient died of collapse the next day. At the post-mortem examination the cause of the obstruction was found 20 ctm. below the artificial anus in the shape of a narrow annular carcinomatous stricture of the colon. In his remarks on the case Professor Krönlein stated that he had observed four similar cases during the time he has been in Zurich. It is not unusual that such a stricture gives rise to no symptoms until suddenly symptoms of complete intestinal obstruction are developed. It would be well in the future, when a similar condition is suspected, to explore if need be the upper portion of the rectum and lower extremity of the colon as far as accessible by Simon's method, as in case the lesion is recognized and accurately lo-

cated these cases are favorable for a radical operation by excision.

Professor Klebs kindly showed me his laboratory and many very valuable specimens in his collection. He has just completed the first volume of his great work on pathology, which is to appear in three volumes. Although somewhat advanced in years, he remains at his post from morning until evening ever ready to impart information to the seekers for knowledge. If the remaining volumes are to be judged by the first his work will be the most complete and perfect text book on pathology.

Dr. Rohrer, Privat-Docent for Otology, is an enthusiast in his specialty. He works daily from one to two hours with Prof. Klebs and has prepared one of the finest collections of the comparative anatomy on the ear in the world. He is also pursuing bacteriological studies with special reference to diseases of the ear. I spent a profitable afternoon in his private clinic and was astonished with what care and patience he examines his patients. Supplied with all modern instruments for investigation he is enabled in all cases to locate the pathological conditions with precision and on the basis of a correct diagnosis in obscure cases, he is prepared to adopt a rational and often successful course of treatment in cases heretofore considered incurable. He is one of the most active and influential members of the International Congress of Otology, and if he continues in the future as he has done in the past will soon stand at the head of his specialty.

N. SENN.

BASLE AND FREIBERG.

Formation of Fat and Causes of Obesity—Immediate Coaptation in Compound Fractures—Skin Grafts—Scoliosis in School-children—Hydronephrosis—Antagonism of Germs—University of Basle—Antiseptics—Socin—Fæcal Fistula—Excision of Larynx for Carcinoma—Supra-pubic Cystotomy—Volvulus—Intra-glandular Enucleation of Struma—Garrè—Fehling—Hegar—Myo-fibroma Uteri—Colpo-perineorrhaphy—Wiedow—Kraske—Extirpation of High Rectal Cancer—Coxitis—Osteotomy for Rickety Legs.

Dear Dr. Fenger:—While in Basle I attended the meetings of the Medical Society of Basle and of the Central Verein; the latter is a National society representing the German Cantons, and has 1,100 members. The Basle Medical Society met the evening before the meeting of the Central Verein, and was attended by many of the visitors. Professor Masini, the President, made a short address and introduced Professor Bunge, who read a paper on "The Formation of Fat in the Body, and the Causes of Obesity," the subject being treated from a strictly scientific and chemical standpoint. He showed clearly that fat is produced from fat, other hydrocarbonaceous food and albuminous substances. The causes of fat accumulation were attributed to want of muscular exercise and consumption of alcohol. He said that dieting in the treatment of obesity was useless and often dangerous, and advised as the safest, most rational and most efficient treatment, active muscular exercise and abstinence from alcoholic drinks. As no one responded to the invitation to open the discussion on the paper it must be taken for granted that the views advanced represented those of the members present.

The Central Verein held a meeting which lasted only one day. At 9 A.M. the members visited the different clinics, where the directors presented interesting cases with brief practical remarks. Professor Socin talked to about fifty members on the "Treatment of Compound Fractures by Immediate Coaptation." He recommended the introduction of ivory pegs about three inches long, and as large as the medullary cavity, into the shafts of long bones as a direct means of coaptation. He showed three cases in which this treatment had been successful, the ivory having healed in. It is certainly a triumph of antiseptic surgery that such a large foreign body can be introduced into the medullary cavity without causing serious disturbances or materially interfering with the normal reparative process; but I doubt very much if Professor Socin, should he have the misfortune to sustain a compound fracture of the leg, would submit to such treatment. That medullary tissue takes an important part in callus-formation after fractures no one can deny, and that it is not good surgery to crush this tissue with such an enormous ivory plug hardly requires an argument. I suggested to him that if such treatment is to be adopted it would be decidedly better not to use solid cylinders of ivory, but hollow tubes which answer the same mechanical purposes and would not interfere with the formation of an internal callus, and at the same time would not tax the resources of nature in her efforts to remove the foreign body by absorption. For myself I should prefer to secure the advantages of immediate coaptation not by plugging the medullary canal, but by making perforations in the compact layer at corresponding points, and introducing small bone nails. The perforations would only hasten the inflammatory osteoporosis, which must precede callus-formation.

Several cases of genu valgum and curvature of the legs were shown in which the deformities had

been corrected by osteo-clasis with Robin's apparatus. Socin speaks favorably of Robin's osteoclast as a substitute for osteotomy.

Cases were also shown in which large cutaneous defects after operations were treated by transplantation of large skin-grafts by Thiersch's method. For success the whole surface must be covered with grafts, which must be very thin. Usually on the third day, when the dressing is removed, the surface is found dry and the grafts firmly adherent.

At noon the meeting was formally opened by the President, Dr. Sonderegger. Professor Kocher read a paper on "The Prevention of Scoliosis in School-children." He believes that structural and architectural changes are produced in the vertebræ by pressure and rotation caused by faulty desks in the school-room. As the best and surest means to prevent lateral curvature of the spine he recommends a desk with a movable top, which can be so arranged that while the child is writing the erect position cannot be changed.

Dr. Haffter reported a case of hydro-nephrosis cured by making an abdominal fistula.

Dr. Garrè read a valuable paper on "Antagonism among Germs." He has made many careful experiments to determine the effect of a culture of germs on different culture substances, and after removing the germs he inoculated the same soil with other germs. From the results thus far obtained he finds that some germs affect the soil favorably for the growth of other forms of germs, while in other cases he finds a direct antagonism. For example, a soil impregnated with the ptomaines of the *bacillus fluorescens putridus* remains perfectly sterile when inoculated with pus microbes. These investigations have an important practical bearing.

The University of Basle does not admit female students. The medical class numbers 120; of this number about thirty pass their final examination

annually. About twenty-five attend the surgical clinic. The surgical wards are on the first floor of the Bürgerspital, and contain eighty beds. Corrosive sublimate (1:1000 to 1:5000) is used as an antiseptic, and for dressing sublimated gauze, dry, and cushions of sublimated wood-wool. Catgut ligatures are prepared by simple immersion in an alcoholic solution of sublimate (1:1000), and material prepared in this way has always been found sterile by Garrè. Dressings are usually not changed oftener than every eight to twelve days.

Professor Socin is a splendid lecturer, an impressive and somewhat stern teacher, and a good operator. He is always thorough in making a diagnosis, and never lets a student off until every "what else could it be" has been exhausted.

In his wards was a young man who received a penetrating wound of the abdomen when 3 years old. A faecal fistula remained, and he was brought into the hospital and placed under Socin's care twenty years ago. Examination showed that the cæcum was injured, and the fistulous opening was repeatedly cauterized, but failed to close. A number of operations were performed but without avail, and the child left the hospital with the fistula. About a year ago he came back for the second or third time, and as intestinal surgery had made great progress since the former attempts both surgeon and patient had new hope of success. The opening was closed at least half a dozen times, but instead of becoming smaller the fistula got larger, as at each operation more tissue was removed. A few weeks ago it was determined to detach the adherent bowel more thoroughly, which was done without opening the abdominal cavity, and the parts were accurately coaptated with three rows of sutures; this time the operation was a success. At present only a superficial granulating surface marks the site of the former fistula, and the patient is in excellent health.

In the female ward I was shown a case of unilateral excision of the larynx for primary carcinoma. The patient was 50 years old, and had had a goitre since childhood. At the time of the first operation the portion of the larynx removed was firmly adherent to the struma, and it was suspected that the disease had extended to the tumor, but it was not thought wise to expose the patient at this time to the additional risks of another serious operation. The struma continued to enlarge rapidly, and as soon as the patient had sufficiently recovered from the larynx extirpation the struma was removed. She recovered well also from this operation, but has been unable to take food by the mouth, as during the act of swallowing it passes into the larynx and causes asphyxia. She is fed exclusively by the stomach tube. She breathes through a tracheal tube, and there has been great difficulty in keeping the larynx patent, as its lumen has become greatly contracted by cicatricial tissue. Dilatation is now practiced by introducing bougies from the tracheal wound upwards.

The benefits to be derived from supra-pubic cystotomy are well shown in the case of a man 45 years old, who was brought into the hospital suffering from symptoms indicating stone. Careful exploration failed to find a stone, but in the eye of the catheter was removed a fragment of tissue which the microscope showed to be carcinomatous. The bladder was opened above the pubis, and the edges of the visceral wound stitched to the external incision. Digital exploration through the opening, and examination with reflected light, showed that the neck of the bladder was surrounded by a carcinomatous mass which had evidently started from the mucous membrane. The whole mass was removed with scissors, spoon and Paquelin's cautery, and the bladder drained. The patient has been comparatively free from pain since the operation. Though a recent

examination showed that the disease is returning, the palliative effect of the operation was marked.

A case of acute intestinal obstruction was brought into the hospital recently, and on palpation a well-defined tumor was felt just above the umbilicus; the abdomen was considerably distended. An incision was made through the linea alba, and the tumor came at once in sight and proved to be a volvulus, a large loop of the small intestine with a long mesentery being twisted one and a half times around its axis and fixed in this position. The volvulus was easily corrected, intestines returned, and the wound closed. Vomiting ceased promptly, the bowels soon moved spontaneously, and the patient is now convalescent.

Of the many operations which I saw I will only detail two intra-glandular enucleations of struma. Recent studies as to the nature and structure of struma, especially by Wölfler, have shown that in majority of cases these tumors are adenomata, and appear as distinct circumscribed tumors with a proper capsule in the substance of the thyroid gland. An adenoma, when it has undergone extensive cystic degeneration, becomes a struma cystica. For many years Socin has recognized these facts, and has substituted for the majority of cases what he has termed intra-glandular enucleation in place of excision. He claims that this operation is easier of execution, and that it does not require the unnecessary removal of glandular tissue. He has done the operation fifty-seven times, and has never had a fatal result or serious complication from the operation. The most important step of the operation consists in finding the exact boundary line between the glandular tissue and the capsule of the tumor. If this place be not found, or be lost during the operation, the surgeon is led astray, and may incur serious hæmorrhage. I was very anxious to see the operation performed by Socin, and as no case was on hand we hunted through the hospital and finally found a man about

fifty years old, who had lost one of his legs by amputation for tuberculosis of the ankle-joint, and who fortunately had a struma, and enough courage to submit to another operation.

The tumor was located in the median line of the neck, and was a little larger than a hen's egg. A straight incision was made over the centre of the tumor, and as the capsule was adherent anteriorly some tissue was lost in separating the adhesions and finding the exact line between the capsule and parenchyma of the gland. After this was found it took only a few minutes to complete the operation. Hæmorrhage was arrested temporarily by compression, until the bleeding points were found and seized with forceps. After bleeding was arrested the wound was drained, sutured and dressed in the usual manner.

The second case came into the hospital next day, and was a legitimate case, as she had come to have the tumor removed. She was forty-five years old, and had had a goitre since childhood. Three distinct tumors could be felt in the substance of the gland. As the bulk of the mass was to the right of the median line a long incision was made along the anterior border of the sterno-mastoid, and a careful dissection made down to the largest of the three tumors. After its capsule was carefully exposed the enucleation was done in a few minutes. Quite a number of forceps were used to arrest bleeding. After all vessels were ligated the other tumors were attacked through the same incision, and removed in the same manner. When all tumors which could be felt before the operation were removed, it was found that the gland was still large, and at least four more tumors were enucleated through the first incision. After enucleation suturing is done very carefully: first the gland tissue is stitched together, next muscles and fascia, and finally the skin. Socin claims that the wounds after enucleation heal better

than after excision, and that the cosmetic effect is also decidedly better.

Socin has established a nice private laboratory at his own expense in his own house, and has placed his private assistant, Dr. C. Garrè, in charge of it. Garrè has done some of the best work in bacteriology that I have seen in Germany or anywhere else. Socin will find that he has made a good investment which will bring compound interest, if not in dollars and cents at least in the satisfaction that he has been instrumental in the advancement of scientific research. One of the attractions in the hospital is the beautiful collection of gunshot wounds which Socin brought with him from the Franco-Prussian war, and which he has presented to the hospital museum.

The chair of gynecology and obstetrics recently made vacant by the resignation of Professor Bischoff has been filled by the election of Professor Fehling, of Stuttgart. I attended the second clinic he gave, and heard an excellent discourse on congenital syphilis. All the students who attend his clinic must wear linen coats, which are furnished by the hospital. Professor Fehling is a thorough student and an excellent teacher, and his new field of labor will afford ample opportunity to increase the reputation he already enjoys.

From Basle I went to Freiburg, i. B., and remained two days for the purpose of familiarizing myself with the work of Professors Hegar and Kraske. Freiburg has only 25,00 inhabitants, and yet the University has 1,100 students, of which 500 are studying medicine; an example of the over-production of medical men in Germany.

Professor Hegar, by his appearance and habits, might readily pass for an American. He is fifty-seven years old, but physically well preserved. In his clinical instruction he is very thorough, and rarely ever takes more than one patient to fill the

hour. During this whole time the patient is kept chloroformed, and from six to twelve students are called upon to examine the case. Hegar told me that unless the patients were anæsthetized they would not submit to such wholesale and public examinations. No students who are dissecting or working in the laboratory are allowed to make these examinations, and they must disinfect their hands thoroughly with warm water and soap and spirits of turpentine. When the list of names is read off and the name of a student is called who has been recently exposed to infection he answers "inficirt," when he is allowed to remain in his seat. In dealing with his patients Hegar is not particularly kind and gentle, and he invariably addresses them with the familiar "du." In his examinations he is very thorough, but his manipulations are not noted for their gentleness. His lecture room is always crowded with students, who appear to enjoy his peculiar temper.

I was present when he performed a very difficult operation on a patient who had a complicated history and *status præsens*. She was about thirty years old, and ceased menstruating in February. For several weeks she had been flooding almost constantly. On examination she was pronounced pregnant. Professor Hegar places great confidence and importance on certain conditions of the upper portion of the cervix as an almost infallible sign of early pregnancy, and was the first to describe this condition. He asserts that at the junction of the cervix with the uterus during the early months of pregnancy the tissues become so soft and yielding that on being compressed between the index finger introduced into the rectum and the tips of the fingers of the other hand applied over the pubes, it becomes almost as thin as cardboard, the tips of the fingers almost meeting; while the lower portion of the cervix, on account of the firmer anatomical conditions, has not lost its resistance. Among other

signs this condition was present in the case. As it was almost certain the foetus was dead, or had already passed away, he decided to clear the uterus of its contents. With forceps and curette large masses of placenta were removed; and on exploring the cavity of the uterus with the index finger, to ascertain whether any fragments remained, it was found that a large interstitial myofibroma projected into the uterine cavity from the right side. Under the unfavorable conditions it was deemed dangerous to leave the tumor, and he decided to remove it through the vagina. On account of the narrowing of the cervical canal it was difficult to make the tumor accessible. The cervix had to be dilated again and again, until finally the tumor could be seized with forceps, when it was drawn down, and the mantle of uterine tissue divided with long curved scissors, after which the tedious process of enucleation began. Although only the finger and dull instruments were used the hæmorrhage was profuse, and the woman became exceedingly anæmic towards the end of the operation which lasted at least an hour. After the enucleation the uterine cavity was thoroughly irrigated and disinfected, and after drying it thoroughly with a sponge it was packed with iodoform gauze, with a view of securing drainage.

Hegar looks upon vaginal enucleation of a uterine myo-fibroma as one of the most difficult operations, and in this opinion he is sustained by most operators who have had experience with the operation. When a man like Hegar approaches such an operation with trepidation, how must an ordinary surgeon or gynecologist feel when he undertakes such a case? He has had 67 consecutive cases of abdominal section without a fatal result. His great hobby is colpo-perineorrhaphy, the only operation, he says, for which he is willing to give a guarantee in every case. I saw his son-in-law, Wiedow, perform this operation twice, and I must say that I have never seen any-

thing more neat and perfect before or since. For suturing fine silver wire is used exclusively, and the vaginal sutures are allowed to remain for four or five weeks. In a case that Hegar had operated upon two and one-half years before, and which I was requested to examine to see the final result, one of the sutures remained, and was removed this time. The secret of his great success with this operation undoubtedly depends on the accurate suturing. Three kinds of sutures are used alternately, so as to secure perfect approximation and coaptation: deep, half deep, and superficial. The first are passed completely out of sight; the second are visible only in the centre of the floor of the wound; while the third embrace only the mucous membrane. The sutures are cut quite short. An ordinary long curved needle is used for passing the sutures. For the dissection an ordinary scalpel is used, while the scissors only come into use in smoothing the surface.

The gynecological and obstetrical wards are in a separate building from the main hospital, and contain eighty beds. A good many of Hegar's and Wiedow's operations are performed in a private hospital in charge of Sisters of Mercy.

Professor Kraske, formerly Volkmann's assistant, is a young, but promising surgeon who has been in his present position but a short time. His wards contain 160 beds, and furnish a large material for clinical teaching. He is thoroughly antiseptic in his operations. He has recently proposed and practiced a new operation for the extirpation of high rectal cancer, which consists in partial resection of the sacrum in order to secure better access to the disease. He has performed the operation five times, and says he has reason to be satisfied with the results. One of his patients who was operated on some time ago still remains in the hospital, and in a comfortable condition.

During the clinic I attended he presented a

number of cases of coxitis before and after operation, and made some general remarks on this disease. He places great stress in placing the limb in the abducted position after the operation, so as to bring the upper end of the femur nearer to the acetabulum. A moderate degree of motion in the hip after operation he considers an ideal result.

He also operated on a rickety child with extreme curvature of the legs. The greatest curve was near the upper epiphyses of the tibiæ, with the convexity directed outwards. Osteotomy with the chisel was performed on the concave side of both tibiæ. The bone was exposed by a straight incision, the periosteum divided and reflected, and with Volkmann's chisel the bone was divided sufficiently for it to be fractured by moderate manual force. The wounds were sutured and dressed, and the limbs placed upon a posterior splint.

As I was following Professor Kraske through his wards a messenger brought word that one of his patients had died suddenly. When we reached the place one of the assistants had just finished a rapid tracheotomy, and by artificial respiration succeeded in restoring the patient. The patient was an old man who was brought into the hospital a few days before with a tumor of the upper jaw and an inflammation below the tongue. A sudden œdema of the glottis caused asphyxia, and life was restored only by the prompt action of the assistant.

N. SENN.

LUCERNE, BERNE AND GENEVA.¹

Hofstetter—Tuberculosis of Ribs—Kocher—Antisepsis—Kocher's Method of Suturing—Antiseptic Catgut—Struma Operations—Injection of Salt Solution—Tubercular Synovitis of Elbow—Synovial Tuberculosis of Knee—Cavel—Tubercular Implantations in Animals—Julliard—Struma Operation—Hospital Tents.

*Dear Dr. Fenger:—*In Lucerne I visited the Kantonspital, which contains about 80 beds. The surgical wards are in charge of Dr. Hofstetter, a young surgeon of more than average ability. When I called he was just getting ready to remove a carcinoma of the mamma in a lady 76 years old. The tumor was about the size of a pullet's egg, firm, immovable and located at a point corresponding to the right margin of the left breast. The patient had noticed the swelling for several years, but it had given no particular inconvenience until recently, when it became painful and tender; axillary glands not enlarged. As the tumor appeared to be attached firmly to the bony wall of the chest preparations were made to excise portions of one or more ribs. The operation was performed under the usual antiseptic precautions. As soon as the incision was made through the skin and subcutaneous tissue it was evident that the tumor was intimately connected with the surrounding tissue. During the dissection an abscess was opened, and on exploring its interior it became plain that the diagnosis was wrong, as the abscess communicated directly with the subjacent ribs, showing that it was a case of primary tuberculosis of the ribs. Sections 3 inches long of the 5th and 6th ribs were excised, and the latter showed a small but distinct tubercular cavity which had opened

on the upper margin and had infected by contact the opposite rib and surrounding tissues.

During my journey I have seen a great many cases of tuberculosis of bones and joints in the aged, patients from 50 to 80 years old; and what is still more important I have seen excellent results after operative treatment in these cases. Age alone furnishes no contra-indication to operations for tubercular lesions.

From my acquaintance through literature I had always considered Kocher, of Berne, one of the ablest of living surgeons; and in this opinion I was only confirmed by a personal acquaintance. An old proverb says "Distance lends enchantment," and this is applicable to a number of surgeons whom I have met on my tour; the nearer you come to them, the more you know them and the more you see of them the more you become convinced that they are a veritable *lucus a non lucendo*. The opposite can be said of Kocher; the more you see of him and his work the greater he becomes. I consider him in every sense of the word the greatest surgeon I have ever seen. He is an accomplished scholar, an accurate careful diagnostician, a bold and dextrous operator, and a born teacher. He is only 47 years old, but looks much older. He is of slender build, and his whole appearance suggests thoughtfulness and hard work.

The surgical wards under his charge contain only 60 beds, but many rare and interesting cases. His large operating room is intended only for small operations before the whole class, and for demonstrations and examinations of cases from the Polyclinic. In this room advanced students are allowed to perform minor operations under his personal supervision. The more important operations are performed in a smaller room, which is supplied with every possible convenience for antiseptic work; it is the most perfect operating room I have seen, Volk-

mann's not excepted. To the operations performed in this room only 5 or 6 students are admitted, and the regulations in writing posted on the door require that the students must not have been recently in the dissecting room or the pathological laboratory, and that they must come without collar, necktie, coat and vest; in fact must come into the operating room with nothing but shirt and breeches. In how far the female students who attend Kocher's clinic can and will comply with these rules I am unable to say, as none of them came during the days I attended.

For irrigation corrosive sublimate solution is used, for general use only 1:5000. When stronger solutions were used intoxication occurred quite frequently. The wounds are covered with a compress of sublimated gauze, generally dusted over with iodiform just before it is applied, and over this a cushion of aseptic moss.

Kocher has a way of suturing wounds which should be more generally known, as it is done rapidly and neatly. It is a form of continued suture, either with fine silk or catgut. A long straight needle is threaded with the suturing material, and as an assistant makes traction with a blunt hook upon each angle of the wound so as to straighten its margins (a procedure which greatly facilitates the suturing) the needle is passed alternately deeply and superficially, so that approximation and coaptation sutures follow one another. In this way a large wound can be stitched accurately in a few minutes. For drainage, glass tubes or rubber drains are used. Kocher's hæmostatic forceps are the best for general use. His struma director is not only a useful instrument for strumectomy, but is very handy in all operations in which deep dissections are necessary close to large vessels.

As I was passing through the surgical wards I counted 4 patients who had been recently operated on for struma, and they were all doing well. Kocher

informed me that recently wounds were inclined to suppurate a little, and he was unable to trace this to any tangible cause, but was inclined to believe that the catgut which was used was not quite aseptic. He has been using catgut prepared in the ordinary way, but will return to his juniper catgut. Dr. Cavel has examined catgut made by Kocher's method, and has not always found it aseptic. By experiment he has found that if the raw catgut be immersed in oil of juniper for 10 days it is perfectly aseptic, and if afterwards kept in absolute alcohol it remains so permanently. He advises that when the catgut is taken out of the juniper oil it be washed with sulphuric ether before being transferred to the alcohol, as otherwise particles of oil cling to it and irritate the wound.

I remained in Berne four days, and had an excellent opportunity to become familiar with the work in the surgical wards, but will only describe the operations of one forenoon to show what a man like Kocher can do in 4 hours. The operations began at 7 A.M., and a little after 11 o'clock the whole work was done. The world knows that Kocher's great specialty is strumectomy. He astonished us all a few years ago when he reported 101 cases of strumectomy at the time when he first called attention to the danger which follows complete extirpation of the thyroid gland, as in quite a number of his cases in which the whole organ was removed a condition allied to cretinism followed, which he described under the term *cachexia strumipriva*. He has now performed the operation more than 300 times, and his results have been so good that in 100 consecutive cases he has not had a single death. He looks upon excision of struma as one of the safe operations in surgery. I was very anxious to see the master of this operation confronted with a difficult case. Two cases were in the hospital awaiting strumectomy, and he selected for my special benefit the one which

was expected to present the greatest difficulties.

The patient was a woman about 40 years old, who had had a large neck since childhood. For a number of years the tumor has been growing more rapidly, until at present it has reached the size of a fist, and was giving a great deal of difficulty in breathing, especially when the patient undergoes unusual exertion. She was very anæmic. The tumor was located almost centrally over the neck, but did not dip behind the sternum. No fluctuation. Chloroform was the anæsthetic used, and was continued throughout the operation. The external incision was made over the centre of the tumor, and obliquely across the neck. Even before the tumor was reached a number of vessels had to be divided between two forceps. The veins all around and beneath the tumor had walls as thin as paper, so that attempts to ligate them failed, and venous hæmorrhage had to be guarded against by compression. Another difficulty from these thin-walled veins was that many times large trunks were accidentally injured in the blunt separation of the tumor from its surrounding tissues. The extirpation lasted over an hour, and all the forceps which the institution possessed, some 60 or 70 were brought into use, and at least another dozen would have been used had they been accessible. The patient, already anæmic, lost considerable blood during the operation, and after all vessels were ligated and the wound sutured, and as the dressings were to be applied, she passed into a condition of collapse, with rapid almost imperceptible pulse, dilated pupils, and extremely pallid countenance. The operator at once had the patient's head lowered and the lower extremities elevated, and at the same time injected ether hypodermatically. As the heart did not respond he at once prepared for saline intra-venous infusion. A saline solution 6:1000, temperature of the blood, was used. The median basilic vein was exposed, opened and a glass

tube, connected with a rubber tube and an ordinary glass funnel, was introduced into the vein and tied firmly with a ligature. The fluid was allowed to flow very slowly, and a little more than a litre was introduced before the contractions of the heart became firmer and the pulse fuller. When this was done the pupils contracted, the patient became conscious and the operation was suspended. The dressing was now applied, and the patient put to bed with the head low and artificial heat applied about the periphery of the body. An hour later the patient was conscious, the pulse still rapid but with a fair volume. Under such circumstances a man's courage is put to the severest test, but Kocher did not show the least excitement, and performed the transfusion as deliberately as though he was demonstrating the operation before his class on a cadaver. The day after the operation I examined the case with Kocher, and though the pulse still remained rapid, all other indications were favorable, and it is more than likely that this patient, snatched from almost certain death by prompt treatment, will ultimately recover.

Immediately after this patient left the operating room a boy 14 years old was brought in suffering with tubercular synovitis of the left elbow-joint. Kocher has also had an unusual experience with excision of the elbow. One of his assistants has collected all of his cases of excision of the elbow-joint, some 100 in number, and will in the near future publish the results in one of the medical journals. Kocher always makes a longitudinal incision over the centre of the olecranon process, and joins this with a shorter one at a right angle, in the direction of the radio-humeral joint, so as to have full access to the joint. The insertion of the triceps muscle is preserved by keeping close to the bone in separating the soft tissues from the olecranon process. The capsule is thoroughly extirpated, and as much of the bone with forceps and sharp spoon as is necessary,

preserving in the case of children, whenever practicable, the epiphyseal cartilage. In this case a small detached sequestrum was found in the trochlea, showing conclusively that the disease began in the humerus. All small vessels were secured as they were divided, and the dressing was applied before the Esmarch's constrictor was removed. No splint was used as the copious dressing and careful bandaging secured adequate immobility in proper position for the resected joint.

The third case was an arthrectomy for primary tuberculosis of the synovial membrane of the knee-joint in an adult female. The usual horse-shoe incision was made, but this was joined by another incision extending along the inner margin of the patella. The cutaneous flaps were dissected back, when the bulging capsule of the joint came into view. The capsule was incised from one side, and a longitudinal incision dividing the capsule on the opposite side of the patella enabled the operator to dislocate this bone to either side, thus rendering the joint well accessible in all its remote corners after it was partially dislocated by forcible flexion of the leg. The greatest care was taken to remove every particle of the diseased capsule with knife and scissors, and where these were inapplicable the sharp spoon was vigorously used. After the joint was thoroughly cleared the patella was placed in its proper position, two openings made on either side for drainage, the wounds sutured, a copious dressing applied, and the limb placed upon an interrupted posterior splint with foot-board.

Thus ended the eventful forenoon. I gladly accepted an invitation to dinner sent by Mrs. Kocher to the hospital. After a substantial and elegant meal we rested for several hours in the beautiful garden behind the house, and the mental feast that awaited us here, if anything, surpassed our bodily enjoyment. Kocher has a small laboratory in the

Pathological Institute in charge of Dr. Cavel, his private assistant, who has done some excellent work here.

Cavel has been studying in a systematic manner the diagnostic value of implantations of tubercular material in animals, mainly guinea-pigs. Granulation tissue from tubercular joints invariably produces acute, diffuse tuberculosis, and death in from 5 to 6 weeks. The course of the disease in the animal is typical: at the point of inoculation a hard nodule appears first, the result of traumatic response on the part of the tissues around the graft. Next a lymphatic gland becomes enlarged in the immediate vicinity of the inoculation, which is done in the flank; consequently the glands in the groin enlarge first. Often a whole chain of lymphatic glands can be felt in the groin. At a later stage the glands in the axilla become affected. At the post-mortem examination it is always found that of the internal organs the spleen becomes affected first, then the liver and lungs, but usually the disease is so diffuse that scarcely an organ remains exempt. When the diagnosis cannot be made between tuberculosis and syphilis, either clinically or by the microscope, inoculation always decides the matter. When the lesion is tubercular the animal always becomes tubercular and dies. When it is syphilis the inoculation is harmless and the animal remains well. I examined a number of the animals and satisfied myself of the truth of these assertions. So far only one animal that was inoculated with tubercular matter has lived for 5 months, and in this case a large abscess formed at the point of inoculation a few weeks after the operation. Examination of the contents of the abscess showed abundant bacilli tuberculosis. A gland in the groin remains enlarged, and the disease, if not arrested by the suppurative inflammation, may have become latent.

I reached Geneva just in time, as the evening I

arrived Professor Julliard sent me word that he would enucleate a struma at 9 A.M. the following morning. I met the genial and courteous Professor at the appointed time in the Hôpital Cantonal, and I saw the case he was going to operate on. The patient was a young man with a very short thick neck, and suffering a good deal from dyspnœa from a retro-sternal struma. Externally the swelling could hardly be seen except when the head was thrown back; in this position a soft swelling could be felt just above the manubrium sterni. About 21 students, including 3 females, had gathered in the amphitheatre to see the operation.

The operation was begun without an anæsthetic, but the patient was so restless and noisy that chloroform had to be given. An incision was made in the median line of the neck and carried as far as the sternum; this exposed a number of very large veins, which were isolated with the operator's own curved forceps, and divided between two ligatures. The muscles over the tumor were partly cut and partly separated. As soon as the capsule of the tumor was reached enucleation was begun by a blunt curved scissors and the finger. During these manipulations the cyst was ruptured, and the empty sac was drawn forwards and carefully separated. A number of the bleeding points required ligation. The cyst seemed to spring from the isthmus of the gland. After the cyst was removed two more tumors were felt embedded in the right lobe of the gland; these were removed through an incision along the anterior border of the sterno-cleido-mastoid muscle in a similar manner. The bleeding, especially from the cut and torn surface of the gland, was quite profuse, and required many ligatures for its arrest. The wounds were dusted with iodoform, drained, and the edges sutured together. The suturing was done with a large curved needle fixed in a handle which is passed through the tissues on both sides and then threaded by an assist-

ant. That the assistant did not always hit the eye of the needle with his thread of catgut as unerringly as the operator expected and demanded was not the fault of the assistant, but of the needle. Julliard ought to deposit this needle in one of the antiquity shops of Geneva, and some enterprising Hebrew would find for it ready buyers who would cherish it as a relic of Pompeii or some other ancient and defunct city. The dressing that the wound received deserves mention. It was first covered with protective silk, next by half a dozen large sponges previously made aseptic by being kept in carbolized water, next came a compress of gauze large enough to cover the head and half of the chest, this was again covered by absorbent cotton, and lastly ordinary cotton to fill up spaces, and the last layer was impermeable paper. All these things were retained with gauze rollers, and lastly a rubber bandage. When the whole thing was done the patient looked like an Egyptian mummy.

The spray is still used in this clinic, and carbolic acid is preferred for an antiseptic solution. Julliard has the best collection of instruments I have ever seen in a hospital, and when I called later at his house I admired his own private collection, which is not as large, but very select. He has also quite a large library, and from the way in which pamphlets were kept and books arranged, it was apparent he keeps his library for useful rather than ornamental purposes. I think he is a diligent reader. His contributions to literature have been many and valuable. His wards contain 120 beds, but during the summer months, from the latter part of April to October, the patients live in tents and have the full benefit of open country air. Each tent or barrack has room for about 20 patients. During this time the rooms in the hospital remain vacant, and can be thoroughly prepared for the next winter. I think this plan should be more generally adopted, as it does not involve much ex-

pense. Julliard told me that all the tents did not cost over 6000 francs.

And now I am at the terminus of my journey, and will begin to retrace my steps to-morrow. I am perfectly satisfied with the results of my trip, as it has afforded me an opportunity to complete a part of my education which could have been done in no other way. I have seen many things, good and bad. We often learn as much by looking at the shady as the sunny side. I have accumulated enough material to keep my thoughts busy not only for months but for years.

N. SENN.

NOTE.—As the author did not always have an opportunity to do his own proof-reading, the reader will pardon a number of typographical errors which have crept in.

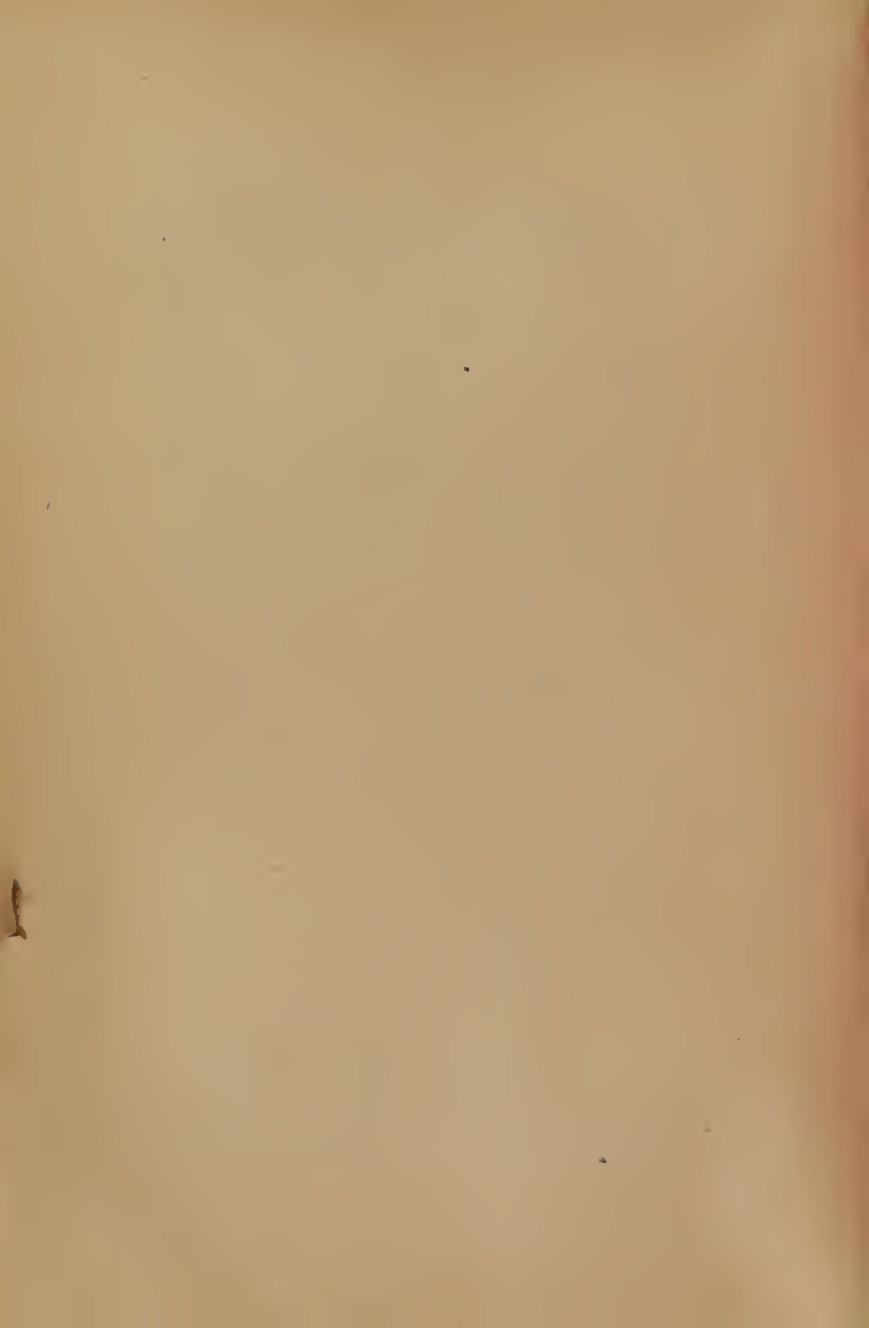
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MEDICUS

Four Months Among — THE — Surgeons of Europe.

BY

N. SENN, M.D., Ph.D.,

OF MILWAUKEE, WIS.

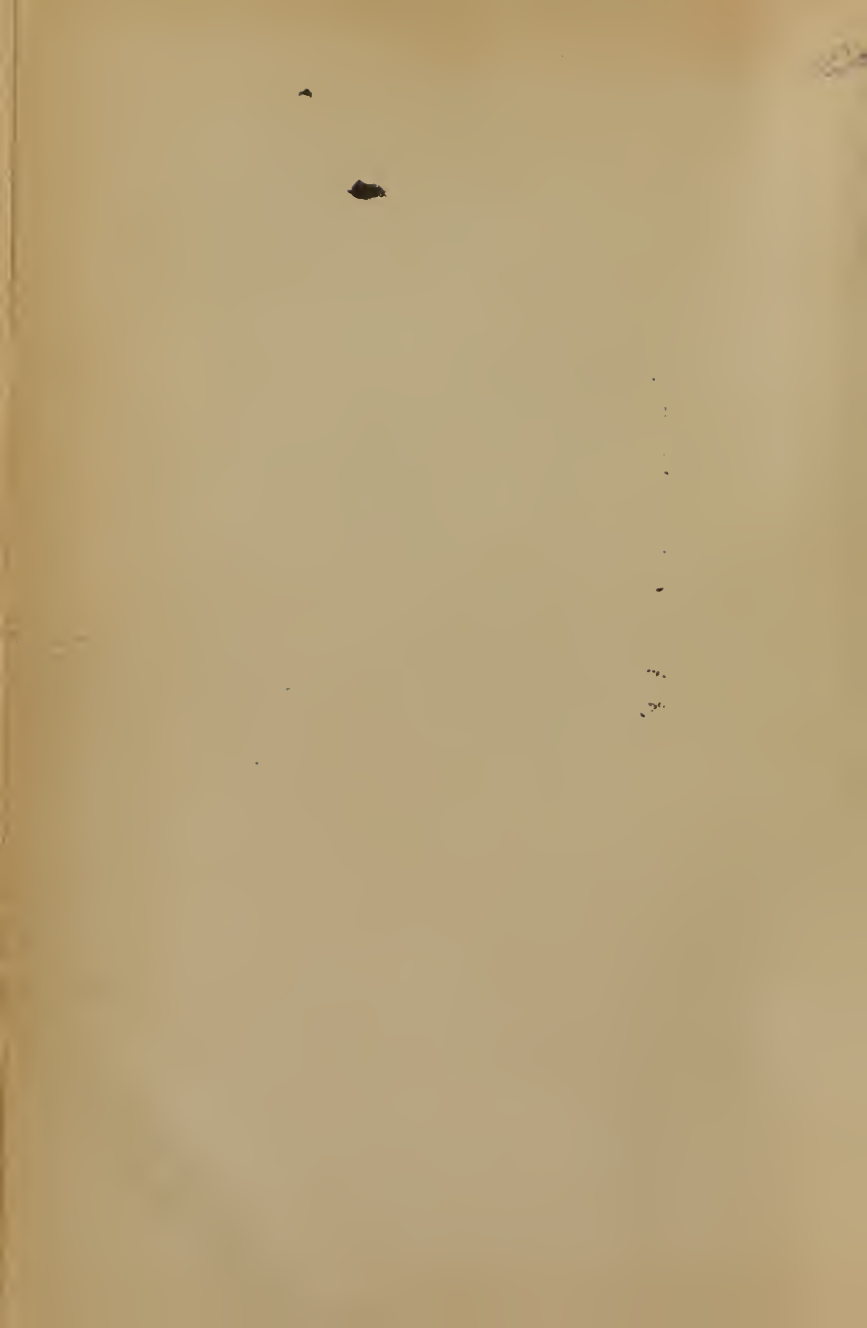
ATTENDING SURGEON TO THE MILWAUKEE HOSPITAL; PROFESSOR OF THE
PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL SURGERY IN
THE COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO, ILL.

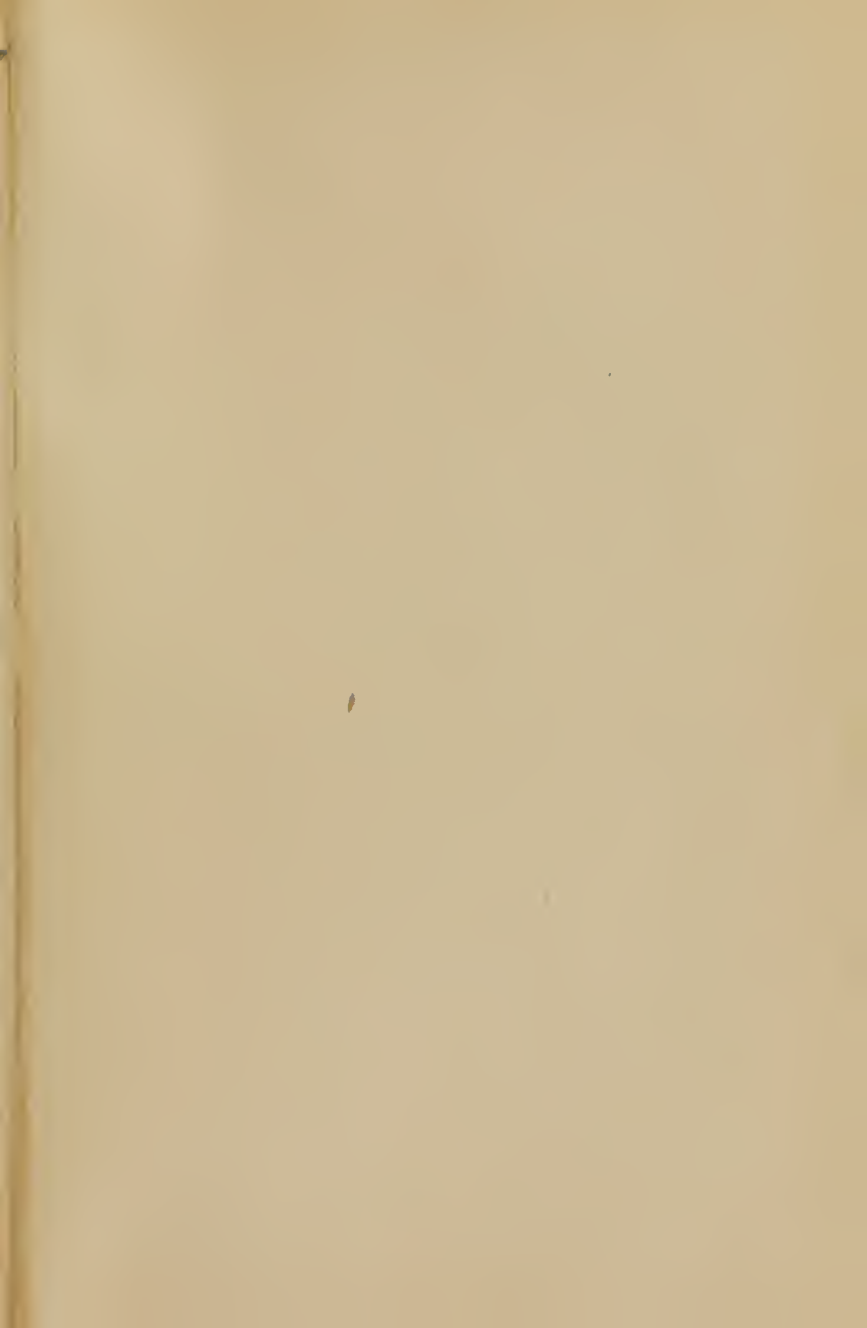
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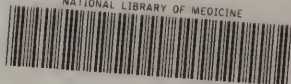






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